Strategic decision making in small and medium enterprises

Fodor, O.C.

Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

COLECȚIA PSIHOLOGUL EXPERT

Editura ASCR
ASCRED

Cluj - Napoca | 2011

Oana Cătălina Fodor

Strategic Decision Making in Small and Medium Enterprises

The Impact of Cognition and Motivation on Decision Making Processes

Descrierea CIP a Bibliotecii Naționale a României
FODOR, OANA CĂTĂLINA
Strategic decision making in small and medium enterprises : the impact of cognition and motivation on decision making processes / Oana Cătălina Fodor. - Cluj-Napoca : Editura ASCR, 2011
Bibliogr.
ISBN 978-606-8244-24-2

65.012.4:33

Contact | oana_iede@yahoo.com

Coperta | Carolina Banc
Prepress | Rafael Oros
Tipar | Cognitrom, Cluj-Napoca

STRATEGIC DECISION MAKING IN SMALL AND MEDIUM ENTERPRISES

The Impact of Cognition and Motivation on Decision Making Processes

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit van Tilburg, op gezag van de rector magnificus,

prof. dr. Ph. Eijlander,

in het openbaar te verdedigen ten overstaan van een door het college voor promoties aangewezen commissie in de Ruth First zaal van de Universiteit op woensdag 18 mei 2011 om 14.15 uur door

Oana Cătălina Fodor,

geboren op 13 januari 1984

te Satu Mare, Roemenië

Promotor: **Prof. Dr. J. L. A. GEURTS**

Copromotores: **Dr. P. L. CURŞEU**

Dr. P. A. M. VERMEULEN

TABLE OF CONTENTS

ACKNOWLEDGMENTS

This thesis had a life of its own and I merely followed. One person led me to another; one project led me to the next. Never have I thought though that what has started as an undergrad paper would gradually become a major theme of my life. Since then almost 5 years have passed, a lot of decisions steered my life and I've been learning a lot about making them.

During this process a lot of people provided me with invaluable support, only some of which I get to acknowledge here. First of all, my utmost gratitude goes to my supervisors: Jac Geurts, Patrick Vermeulen and Petre Curseu, whose direction, assistance and guidance enabled me not only to develop a better understanding of the subject but also to master the common hardships of any research project. There were many nights of intense study, a lot others full of the excitement of the research, and then a few more when I was ready to give up. They all have helped me ride this rollercoaster.

I am also grateful to the members of the PhD committee who have taken the time to read this manuscript word by word and provide me with invaluable feedback.

My sincere thanks are due to Professor Mircea Miclea and the ASCR team, without who the publishing of this thesis would have been a hard endeavor.

During these past years I had the privilege of working with two of the finest people I've met, Petre and Smaranda, to whom I owe my deepest gratitude. Though in different ways and times, they both have challenged me professionally and personally and have been a real source of inspiration.

Last but not least, I am heartily thankful to my family. They have patiently stood by me during this process, understood my silence and kept me going. Not all of them are here to enjoy this moment with me, but I'm sure they do from wherever they are.

Oana Catalina Fodor

Cluj Napoca,
March 2011

INTRODUCTION

John Godfrey Saxe's (1816-1887) - *The blind men and the elephant*

It was six men of Indostan
To learning much inclined,
Who went to see the Elephant
(Though all of them were blind),
That each by observation
Might satisfy his mind.

The First approach'd the Elephant,
And happening to fall
Against his broad and sturdy side,
At once began to bawl:
"God bless me! but the Elephant
Is very like a wall!"

The Second, feeling of the tusk,
Cried, -"Ho! what have we here
So very round and smooth and sharp?
To me 'tis mighty clear
This wonder of an Elephant
Is very like a spear!"

The Third approached the animal,
And happening to take
The squirming trunk within his hands,
Thus boldly up and spake:
"I see," quoth he, "the Elephant
Is very like a snake!"

The Fourth reached out his eager hand,
And felt about the knee.
"What most this wondrous beast is like
Is mighty plain," quoth he,
"'Tis clear enough the Elephant
Is very like a tree!"

The Fifth, who chanced to touch the ear,
Said: "E'en the blindest man
Can tell what this resembles most;
Deny the fact who can,
This marvel of an Elephant
Is very like a fan!"

The Sixth no sooner had begun
About the beast to grope,
Then, seizing on the swinging tail
That fell within his scope,
"I see," quoth he, "the Elephant
Is very like a rope!"

And so these men of Indostan
Disputed loud and long,
Each in his own opinion
Exceeding stiff and strong,
hough each was partly in the right,
And all were in the wrong! (...)

Not so long ago I came across a very meaningful and widespread Hindu story. It is the story of several blind men trying to learn what an elephant looks like. Each of them gets to touch a certain part of the elephant's body and envisions the animal in a highly specific and different way: one of them resembles it to a wall, another one to a tree, then to a snake and so forth, the story says. Although none of them was completely wrong, they all missed the real, complete picture of the elephant. Research, I think, is very much alike. Too often, bold scientists invest time and energy in investigating how 'the elephant' looks like, but during the process they sometimes grasp only parts of it. Thus the need for further integration of such efforts becomes clear.

This thesis tries to address exactly this need, while approaching a very generous topic: strategic decision making in small and medium enterprises (SMEs). In the journey of envisioning 'the elephant', the thesis aims to take a closer look at the current state of the art in the field and develop an integrative framework for the way key actors in the SMEs make strategic decisions.

At the crossroads of several disciplines such as organization studies, neuroeconomics or psychology, strategic decision making research - as a subtopic of strategic management - has so far focused on two core directions: the content and the process. The approach of the decision making content shed light upon issues such as the subject of the decision itself, the types of decision that are usually made within organizations and how the decision characteristics are linked to effectiveness and company performance.

In contrast, process research focuses on the actions underlying a decision. Generally, it includes prescriptive or descriptive work on the decision making steps, with an emphasis upon those steps which are more closely linked with decision effectiveness. Another concern of this area developed around the factors that influence the formation and

implementation of strategic decisions and ultimately have an impact upon their effectiveness: the environment, the structure and culture of the organization, group and individual characteristics (see Rajagopalan, Rasheed and Datta, 1993; Huff & Reger, 1987).

However, the issue of the decision maker as a central actor for the decision making effectiveness has been insufficiently explored so far. To my knowledge, research still lacks an integrative model explaining the influence of individual related factors upon the strategic decision effectiveness in terms of process and outputs. This is especially important because within the SMEs the entrepreneur is the one who usually bears the responsibility concerning the decision and has to cope with its immediate consequences (Brouthers, Andriessen & Nicolaes, 1998; Gilmore & Carson, 2000).

As such, one major goal of the current thesis is to further build on the process research and to integrate in a coherent decision model some of the most relevant individual factors pertaining to cognition, motivation and emotion, which were ultimately proven to have a pervasive impact upon human behavior (Reed, 2006). Considerations upon the influence of the decision situation will also be made. Only such an in-depth analysis that goes beyond the macro-level models of decision making will help to envision a comprehensive picture of the decision making process.

The cognitive perspective upon strategic decision making holds that key organizational actors operate in highly complex, ambiguous and uncertain ‘information worlds’. In face of such challenges, decision makers have only limited capacity of perception, processing and storage (Simon, 1947, Miller, 1956). As such, by importing previous experiences and incorporating the information at hand, individuals build simplified representations of the environment. The so-called dual process models of cognition hold that there are two types of processes concurring at the

elaboration of such cognitive representations: the automatic (or System 1) versus the controlled (or System 2) type of processing. While the two processes are both quantitatively and qualitatively different in terms of process and output, the cognitive representations they lead to will further guide the entrepreneur decision making behavior. Thus, the cognitive representations, as well as the individual and environmental factors influencing their elaboration, become central for the decision effectiveness.

A proper environment that lends itself for the exploration of the link among individual cognition, the factors influencing it and the decision making processes is the small or medium sized company. Within SMEs, the decision maker is usually represented by one individual: the one that starts and runs his own business, known as the entrepreneur or small business owner[1]. Within the current thesis and for the purpose of this research, the entrepreneur is considered to be the individual who discovered, evaluated and exploited business opportunities (Shane & Venkataraman, 2000), found new ventures and most of all is responsible with managing them, therefore with making strategic decisions.

Compared to larger organizations (Pettigrew, 1993; Pfeffer, 1992), SMEs leave little to no room for politics, power plays or other social dynamics when making decisions. Conflicting interests, coalition building, diverging goals, competition among power bases are highly unlikely when the decision making authority is concentrated within a single individual. Moreover, due to constriction of resources, SMEs usually lack decision support systems specific to large companies, thus

[1] I am aware of the debate on whether entrepreneurs and small business owners are similar or different, but for the sake of simplicity I chose to use these two terms interchangeably. The empirical studies are carried out in Romania and in a market economy with such a short history as the Romanian one is, it is very likely that the ones that started the business are also the ones that run/own the business.

enhancing the link between the entrepreneur's cognition and the decision making process and outputs.

On the other hand, micro, small and medium enterprises (SMEs) occupy strategic economical positions within the economies of most European countries, since they represent 99% of all enterprises in the EU, they provide around 65 million jobs and substantially contribute to each country's Gross Domestic Product (GDP) formation (Audretsch, van der Horst, Kwaak & Thurik, 2009).

In the recent years however, SMEs have been operating in a complex and dynamic environment defined by the customers' changing demands, the globalization of the market and therefore an increase in competition, technological innovations, fluctuating raw material and energy prices, all these coupled with limited resources and a lack of strategic planning personnel.

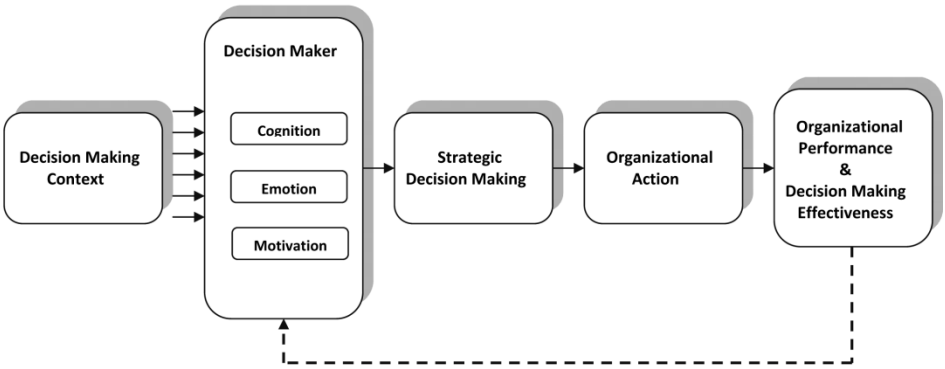
The volatility of the SMEs' sector within the EU setting is enormous; each year about 1.5 million SMEs are established, while 1.3 million SMEs cease to exist (Audretsch, van der Horst, Kwaak & Thurik, 2009) either voluntarily, or forced (e.g. bankruptcy, no successor etc.). Between these two processes: business birth and business death, entrepreneurs make myriad of decisions out of which the strategic decisions are of vast economic importance. Highly diverse in nature (ranging from new product development, change of market strategy, change of internal processes etc.) strategic decisions have a direct impact upon the SMEs' performance (Robinson and Pearce, 1983) and on the long run they affect their very survival on the market (Eisenhardt and Zbaracki, 1992).

By considering the previously stated facts, it becomes clear that a scientific exploration of the entrepreneurial strategic decision-making processes is of utmost importance in revealing the mechanisms through which the SMEs participate in the economic growth.

The second goal of the current thesis is therefore to extend the research on strategic decision-making carried out in large organizations (Forbes, 2000; Mahnke, Venzin & Zahra, 2007) to the SMEs setting. The arguments that support this decision are twofold. First, as previously pointed out, there is a methodological argument: within the SMEs, there is a tight link between the individual cognition and the decision making process, thus allowing a more precise exploration of individual factors impacting the SDM. Second, the pragmatic argument is driven by the fact that SMEs are the engine of economic growth. Under such circumstances it becomes crucial to unravel the mechanisms of strategic decisions, since an effective process would positively impact the economic path of the SME, while a defective one could easily take the SME out of business.

All in all, the current thesis aims to explore the link among entrepreneurial cognition, emotion, motivation and the decision-making process and outcomes in the particular setting of SMEs. In particular, the present research involves the development and partial testing of a micro-level model of strategic decision making that proposes several cognitive, motivational and emotional factors as determinants of strategic decision making effectiveness.

FIGURE 1
The Strategic Decision Making Process



Basically, the main research questions can be summarized as it follows:

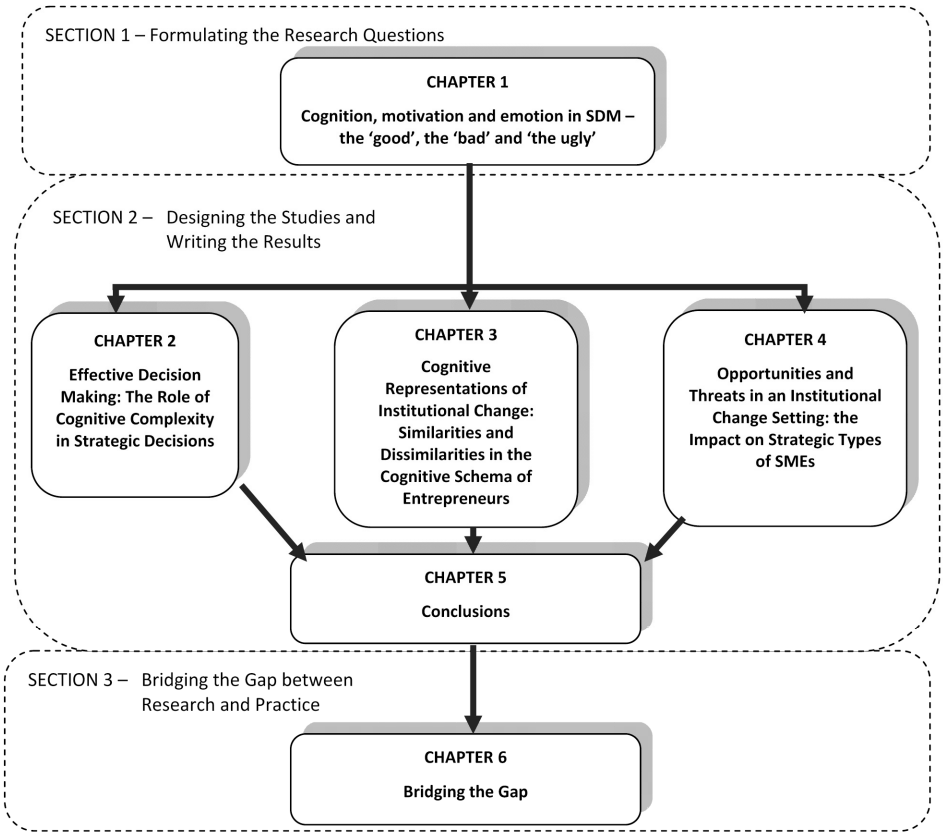
- **What is the role of the two modes of information processing: automatic or system 1 and controlled or system 2 when making a decision? How do they impact on the decision effectiveness?**
- **How are different cognitive representations such as threats and opportunities related to the prevalence of one processing mode over the other when entrepreneurs tackle decision situations? Which one produces better outcomes?**
- **How do the dispositional variables related to the decision maker's motivation influence the information processing type: automatic versus controlled when making a decision?**
- **How do emotions influence the strategic decision making process in terms of the underlying processing mechanisms? Is the prevalence of emotion over cognition beneficial or detrimental when making decisions? What are the 'good', the 'bad' and the 'ugly' emotions when making a decision?**

- **How do dispositional variables pertaining to the decision maker's motivation influence the decision making process? Which variables enhance the effectiveness of the decision making process? Which ones are detrimental?**
- **How is the decision making situation cognitively represented? What type of information pertaining to the decision situation do the strategic decision makers represent? What are the major factors that influence the elaboration of the decision situation cognitive representation?**
- **How does the cognitive representation of a decision situation impact the decision effectiveness?**
- **What is an adequate methodological approach to elicit such cognitive representations?**
- **How is the individual cognition related to the environmental pressures, on the one hand, and the strategic orientation of the firm, on the other hand? Or more, specifically, how does the way entrepreneurs represent the strategic decision situation – in terms of opportunities and threats – impact the strategic orientation of the SME?**

The research process designed to answer the above mentioned questions and fulfill the research goal: developing an integrative micro-level model of strategic decision making in the particular setting of SMEs has resulted in the current thesis. It comprises six chapters as it evolves from finding research questions that are theoretically challenging – Chapter One, designing the studies and writing the results – Chapters Two, Three and Four, summarizing the most important findings for the research questions – Chapter Five, and finally bridging the gap between

research and practice by extracting some guidelines for strategic decision makers operating in SMEs – Chapter Six.

FIGURE 2
The Research Process and Structure of the Thesis



The first chapter builds upon the dual-process model of information processing and explores the way in which cognitive factors, affective states and dispositional variables related to motivation interact and influence the information processing strategies underlying the decision process and its outputs. Much to the bewilderment of self-development oriented decision makers who might have aimed to

extract a guideline for best practices in decision making, previous research provides them with strikingly different insights. Some researchers would advise them to keep a 'cold', rational approach to decision making, while others would argue that emotions are influent and beneficial for the same process. Ones would argue that carefully scrutinizing the information at hand related to a decision leads to an optimal choice, while others praise the role of intuition. Some would say that a complex representation of the decision situation is helpful, whereas others claim that is detrimental. Moreover, some would hold that being in a positive mood makes decision makers see the world with superficial 'rosy' glasses, while others claim that positive emotions contribute to the decision making process through creativity. Still, some would argue that negative emotions promote a highly effective decision process by enhancing the array and depth of information processing, while others would bring contradictory evidence as proof. After all, how does the 'elephant' look like? The first chapter tackles such important issues pertaining to decision making, while launching important research questions to be approached in the following three sections of this thesis.

The second chapter focuses on the role of activated representations in the working memory of the individual in the decision making process and tests the mediating role of cognitive complexity in the relationship between a set of motivational attributes (self-efficacy, need for cognition and tolerance for ambiguity) and decision-making effectiveness. Thus, the link among motivational factors, cognition and decision making is addressed.

The third chapter explores the role of cognitive factors in explaining how exogenous institutional change impacts on organizational actions. The study integrates institutional theory with the work on cognition and explores how cognitive representations affect the

relation between environmental pressures and organizational responses, as a result of strategic decision making processes.

The fourth chapter aims to refine the concepts of opportunities and threats – as two representations that entrepreneurs build in relation with the environment. More precisely, the study extends the threat-rigidity hypothesis and tests the joint effect of opportunities and threats on the SMEs strategic orientations in a situation of macro institutional change.

In order to have a structured approach on the various aspects pertaining to strategic decision making within SMEs, chapters two to four are built on a similar algorithm. The studies start with a summary of the contribution brought to the extant literature. Then, the theories or previous studies with the most relevance for the topic at hand are reviewed, analyzed and integrated according to the specified research objectives. Detailed reports of the procedures used to collect and analyze the new experimental data are also included, along with the discussion of the results, the possible limitations and the implications for future research.

The fifth chapter of the thesis summarizes all the relevant conclusions drawn by answering the research questions mentioned above, while the final chapter launches some ideas on how to bridge the gap between research on strategic decision making in SMEs and practice. Important hints about how to optimize the way SMEs entrepreneurs make strategic decisions are discussed.

The Appendix section in this book comprises reports upon the data collection procedure, instruments that were used and preliminary data obtained. Hopefully, they will provide the reader with a more accurate picture regarding the scientific demarche.

CHAPTER 1

COGNITION, EMOTION AND MOTIVATION IN SDM – THE GOOD, THE BAD, THE UGLY

"We know the truth, not only by the reason, but also by the heart"
(Blaise Pascal)

Abstract

For a considerable amount of time, research on decision making was performed under the assumption of the decision maker's 'rationality'. Although the assumption was seriously shaken by recent findings on cognitive, emotional and motivational factors, there is yet no comprehensive model of decision making to incorporate them. The following chapter aims to develop an integrative framework of decision making that details the complex interplay among cognition, emotion and motivation when making a decision. In doing so, we build upon the dual-model of information processing and argue that the roles of the automatic and controlled processing mode are crucial for understanding the dynamics of the factors concurring in generating a choice.

1.1. INTRODUCTION

The literature, philosophy or 'folk psychology' is abundant in consistent debates upon reason and passion, mind and hart, as real or ideal determinants of human action. While intimate facets of the interaction between the two have been brought to light through such experiential, analytical yet non-systematic approaches, the general verdict was that cognition and emotion are in direct opposition and that one should prevail over the other in order to ensure an adaptive functioning.

In line with the above mentioned trend, since psychology emerged as a self-standing social science, its interest towards such historical debate was initially translated into a separate approach of the two processes. Both cognitive processes, as well as the affective variables were seen to operate in a "vacuum", immune at each other's influence (Blanchette & Richards, 2009).

Nowadays however, human behavior is agreed to be determined to a large extent by the complex yet necessary interplay among cognition, affect and motivation (Reed, 2006). Further on, this dynamic approach of the interaction between cognition and emotion in particular, along with motivation, culminated with research pointing towards a slightly different conclusion than its predecessors in the human intellectual history: the prevalence of one over the other can be both beneficial and detrimental to human behavior according to context.

Decision making is one of the pivotal cognitive processes of daily life. The environment is generous with events that require our immediate attention in terms of choosing one way of action out of several available, after a more or less careful consideration of the outcomes of the available alternatives. Whether trivial and routine like – such as choosing where to have dinner, or highly consequential for our lives – such as choosing one's career, decisions ultimately allow us to pursue our goals. Within organizations, decision making is

even more important since strategic decisions (SDM) – the ones that require a substantial amount of organizational resources in order to reach strategic goals – impact the company's success, failure and even survival on the market (Eisenhardt & Zbaracki, 1992; Robinson & Pearce, 1983).

Within small and medium enterprises (SMEs), where the entrepreneur or executive manager is the only decision maker and decision support systems are scarce, the link between individual cognition, motivation and affect – as particularities of the decision maker, on the one hand, and the company's strategic orientation, on the other hand, is even more intimate. In such a context, therefore, a closer look at the way key organizational actors make decisions, at the way cognition, emotion and dispositional factors are intertwined and concur at producing a strategic choice, becomes of utmost importance.

The current chapter argues that in order to better understand macro-level concepts such as the strategy of SMEs, one should take a closer look at the person dictating it through the strategic decisions he/she makes: meaning the entrepreneur who runs the business. That is, more attention should be paid at micro-level processes occurring when the key organizational actor makes decisions. It is the goal of this chapter therefore to develop an integrative model of decision making that incorporates the cognitive factors, the emotional variables and the dispositional elements pertaining to the decision maker, as well as their interplay.

In doing so we will further build upon the dual-process model of cognition. As such, a more generic look at the human cognitive architecture and functioning might be of use. The human cognitive system selectively perceives information from the environment. The dual-process model of SDM states that starting with the perception stage the information is processed by two interdependent mechanisms: the automatic and the controlled processing. The

outputs of such processing are implicit or explicit cognitive representations stored in the Long Term Memory (LTM). Whenever specific tasks such as decision-making need to be tackled, through the same automatic or controlled type of processing, the human cognitive system activates in the Working Memory (WM) the relevant cognitive representations stored in the LTM (Curşeu et al., 2008; Miclea, 2003). The integrative model of decision making advanced within this chapter argues that the dynamic interplay among cognition, emotion and dispositional factors pertaining to the decision maker can be traced back to such underlying information processing mechanism: the automatic and the controlled processing mode and their role.

This model aims to respond to several fundamental questions related to decision making: How do cognition, emotion and motivation interact during a decision making process in order to produce an outcome? What are the underlying mechanisms of this interaction? What is more beneficial in terms of outcomes produced: the prevalence of cognition, emotion or motivation during decision making? What are the 'good', the 'bad' and the 'ugly' emotions, cognitions and motivational factors when making a decision? Or, are there a certain type of cognitions, some specific emotions and a particular set of dispositional variables that enhance the decision making process and produce better outcomes? What about the reverse?

In order to tackle the above mentioned issues, this chapter begins with a generic overview of the impact of emotions on basic and higher-order cognition. This is especially important since, on the one hand, basic cognitive processes such as perception, attention and memory are involved in the decision making process, whereas on the other hand, research on higher-order cognitive processes such as judgment, reasoning and interpretation was closely connected to research on decision making. The following section focuses on a more

specific topic: the development of the integrative model of decision making. In doing so, I will start by presenting the dual-process model of cognition, followed by gradually adding research on each of the pieces in the puzzle: the representational space, the emotional space, the dispositional factors, while also considering some of the environmental factors closely linked to the elements mentioned above.

1.2. EMOTION AND COGNITION – AN OVERVIEW

Emotions play a central role in our mundane life. At the macro-level of our existence they are of utmost value for our functioning. As Dolan (2002) put it, emotions are the main "currency" within human relationships, they provide crucial information of our interactions with the world (Clore, 1994), they speed our responses in life-threatening situations (Frijda, 1986), they motivate us to pursue our goals and overcome obstacles (Levine & Pizaro, 2004). Similarly, at the micro-level, emotions have a major influence both over basic cognitive processes such as perception, attention, memory and learning, as well as upon higher order cognition like interpretation, judgment, reasoning, and decision making – all core processes that help us sail through the challenges of everyday life.

The purpose of this section is to review the most important research documenting the interaction of emotion and several cognitive processes that have further implications for building the decision making model. During this demarche, important hints will be revealed regarding the way different types of emotions are related to and contribute to the activation of the two underlying information processing mechanisms: the automatic versus the controlled processing mode.

Starting from the very basic cognitive processes, current findings point to the impact of emotions on **preattentive perceptual processing**, positing that there is an advantage in detecting

emotional items even under conditions of limited attentional resources.

Research pertaining to several paradigms supports this finding (for a more complex review see Dolan, 2002). For example, in the visual masking paradigm, where the initial hidden stimulus is emotionally loaded (e.g. a spider), an advantage in processing fear-relevant compared to fear-irrelevant targets is registered through measures of differential skin conductance response (Esteves et al., 1994), suggesting the activation of a fast, automatic information processing mechanism. Similarly, in the attentional blink paradigm, the "inattentional blindness" for a second target, generated by the detection of an initial target is seriously diminished when the second target has an emotional valence (Vuilleumier et al., 2001).

Further on, considering the influence of emotions upon **attention**, an enhancing effect leading to an increased detection of emotional events was pointed out in classic visual search paradigms, as well as in spatial orienting tasks (for a review see Dolan, 2002). In the former, emotional stimuli such as faces with positive or negative expressions, spiders or snakes, are more rapidly detected, with a preference for fear-relevant targets (Ohman et al., 2001). Similarly, in spatial orienting tasks, findings report a faster response to targets appearing on the same side as an emotional stimulus (e.g. spiders, threat words, faces with positive or negative expressions) and a slower response to those appearing on the opposite side (Armony et al., 2002; Mogg et al., 1997). All in all, there is a large body of research showing a pronounced effect of anxiety or threat on attention compared with the effect of sadness or depression. The obvious preference for processing such threatening stimuli (Bar-Haim et al., 2007) might as well be linked to the activation of an automatic, rapid information processing mode under conditions of threat.

Memory is not only an important process per se, but along with perception and attention, it as an underlying component of virtually

all higher order cognition. Interpretation, judgment, decision making and reasoning, they all rely on the recall of stored information. Since the literature concerning the impact of emotion upon memory is enormous and a comprehensive review is beyond our purpose, we will only focus on the core matters related to the topic at hand.

Emotional stimuli tend to be better remembered than unemotional stimuli: events, pictures or words (see review by Revelle & Loftus, 1990). When intense emotion is experienced at the time of encoding, memory for central details improves, while memory for background cues diminishes, probably due to the impact of emotion upon underlying attentional mechanisms (Heuer & Reisberg, 1992).

Material with emotional content matching the learner's emotional state is learned better than material with contrasting emotional content, an effect named mood-congruent learning (Bower, Gilligan & Monteiro, 1981). Mood-congruent learning varies according to some factors: for example, mood-congruent learning occurs for items with intense positive or negative valence, while mood-incongruent learning occurs for items with mild positive or negative valence (Rinck, Glowalla & Schenider, 1992).

Meta-analysis also points towards a mood-dependent recall, in that congruence between moods at encoding and retrieval improves memory independently of the memory context (Ucros, 1988). Moreover, the emotional state at the time of retrieval was shown to also interact with the emotional content of the material remembered, thus highlighting a mood-congruent recall. For example, in a classic experiment of Snyder and White (1982), participants with an induced happy mood asked to recall autobiographical memories from the past week remembered more happy memories than participants in a sad mood, and vice versa.

Interpretation refers to the process of resolving ambiguity when exposed to such ambivalent stimuli to either of our sensory modalities. Extracting meaning from ambiguous information is of

critical importance for human preservation since correctly interpreting ambiguous stimuli as potentially harmful can help us regulate our behavior under conditions of threat.

Although the impact of several discrete emotions on interpretations has been explored, most of the insights concerning this matter come from the area of anxiety (for a comprehensive review see Blanchette & Richards, 2009). The findings obtained both in laboratory and real-life settings, explored in different research paradigms, with a variety of ambivalent stimuli, are overall consistent and point towards the same effect. An individual's affective state guides the process of extracting mood congruent meaning out of ambiguous information when presented in isolation. More specifically, both experimentally induced anxious states, as well as stable individual differences in trait anxiety constrain the interpretation of neutral stimuli containing both neutral and threatening clues. Thus, anxious individuals (Butler & Mathews, 1983) and groups (Amir, Foa & Coles, 1998) have the tendency to make more negative interpretations of such stimuli; they perceive themselves to be at greater threats than other people and anticipate higher costs for them brought by the exposure to such potential negative events.

Further on, recent studies have shown that, when available, individuals use contextual clues in order to interpret the emotionally ambiguous information (Nygaard & Lunders, 2002). For individuals experiencing negative affect at the time of interpretation, an increase in bottom-up processing is registered (Fiedler, 2000). Thus, when information is available, people in a negative mood engage in a more controlled type of processing and assess a wider range of information pertaining both to the stimulus and the context in order to extract the meaning and, as such, the anxiety-congruent bias may be overridden (Blanchette & Richards 2003).

Compared to anxiety, little to no research has been reported as documenting the impact of sadness, anger, disgust or happiness upon interpretation and so far they are inconclusive (Blanchette & Richards 2009).

For example, research on disgust apparently parallels the findings in anxiety, with participants induced to feel disgusted preferentially interpreting ambiguous stimuli in a negative way (Davey, Bickerstaffe & MacDonald, 2006). Yet this research is at a very early point so far.

On the other hand, the findings concerning the way sadness influences interpretation proved to be equivocal. Initial results reporting an interpretive bias in depressed individuals, similar to the effects of anxiety over interpretation (Butler & Mathews, 1983; Forgas, Bower & Kantz, 1984), received no support in further more tightly controlled studies (Lawson & MacLeod, 1999; Bisson & Sears, 2007), concluding so far that depression is associated with a response bias rather than an interpretive bias.

Unlike interpretation which refers to solving the ambiguity of current perceived stimuli, **judgment** is a distinct cognitive tool employed by the individual in order to solve the ambiguity of future events, by roughly estimating the probability of occurrence of such events. Similar to interpretation though, judgment is also permeable at the influences of affective states, as sustained by a considerable amount of research coming especially from the area of risk perception or estimating the likelihood of negative, threatening events (Blanchette & Richards 2009).

Overall, it appears that participants in a negative induced mood: sadness (Johnson & Tversky, 1983) or anxiety (Constans, 2001; Zelenski & Larsen, 2002) are more likely to report increased estimates of the occurrence of negative events compared to positive events. Analogous, individuals in a positive induced mood show

increased likelihood estimates for positive rather than negative events (Constans & Mathews, 1993; Mayer et al., 1992).

However, more recent findings reveal that discrete emotions integral to the judgment task - as opposed to previous research that manipulated incidental emotions thus unrelated to the judgment task - might have different impacts upon judgment and the effects are constrained to the specificity of the event that was the source of the mood in the first place. Thus, individuals with a high level of anxiety generated by a particular event will estimate an increased likelihood of that particular negative event and not of others (Constans, 2001). Further on, several studies revealed that individuals induced in an anxiety/fear state reported higher estimates of risk, compared to individuals who were primed to feel angry and who, in turn, reported lower estimates of risk for the same event (Lerner & Keltner, 2000; Lerner et al., 2003). Appraisal patterns were advanced in order to explain the difference in effect between anger and fear (Lerner & Keltner, 2000).

Reasoning was conceptualized as the human ability to perform complex abstract processing with the purpose of drawing inferences out of the data at hand. As we have previously stated in the beginning of this chapter, the liaison between reason and emotion has long ago been postulated in philosophy or literature.

Psychology has also tried to document this interaction and the outputs converge towards a similar conclusion. Positive or negative (anxiety, depression) affective states or traits, which are incidental - thus independent from the reasoning task –, were proved to impair the accuracy of drawing inferences, while making individuals more prone to reasoning errors across a variety of tasks (Oaksford et al., 1996; Melton, 1995; Blanchette, 2006).

On the contrary, a parallel line of research focusing on emotions integral to the reasoning tasks has revealed different outputs. It seems that when confronted with a reasoning task over

personally relevant semantic contents with emotional valence, individuals tend to reason more logically compared to neutral contents (Blanchette & Campbell, 2005). A possible explanation for integrating the divergent findings put forward by Blanchette and Richards (2009) is that when unrelated to the task at hand, incidental emotion acts as a distracter and attention is driven away from task-relevant information. On the other hand, emotion inherent to the task at hand narrows the attention span and focuses it on task-relevant information.

1.3. DUAL MODEL OF INFORMATION PROCESSING IN SDM

While the previous section was concerned with setting the grounds for the interaction of two of the most important factors: affect and cognition and detailed the way different emotions impact several basic and higher order cognitive processes, the current section narrows the area of interest towards decision making. More specifically, the aim of this section is to integrate research on cognition, emotion and dispositional factors in a comprehensive model of decision making that builds upon the dual model of information processing. Considerations upon the influence of the situation demands will also be made.

Decision making is a cognitive process of selecting an option out of several available, with a specific focus upon the potential benefits or losses brought by the outcome of our choice. While decision making can be a daily, routine process with all the necessary information at hand such as when choosing what to eat or what to wear, sometimes we are faced with decision situations characterized by major uncertainty related to the possible outcomes of one alternative or the other (e.g. when choosing a university major, a job or a life partner).

In the organizational setting, key actors such as entrepreneurs are also confronted with situations of uncertainty that require

making a choice. Out of these choices, the ones with the most importance for the economic path and performance of the company are the strategic decisions.

Making strategic decisions refers to selecting a course of action on matters of crucial importance for the firm performance under conditions of uncertainty (Bourgeois, 1980). Strategic decisions usually arise in relation with the organizational goals; they engage a vast amount of organizational resources (Chandler, 1962) and influence many aspects of the firm functioning (Christensen et al., 1982).

Early decision-making theorists described the process as a pure cognitive one which involves the selection of an alternative after a careful deliberation of its utility and probability of occurrence. The 1960s were governed by the rational approach of decision making and decision models only included the cognitive element of processing all the extant information on the decision situation and weighing which course of action would bring the decision maker the most benefit and the least disadvantage (Mintzberg et al., 1976).

Still a purely cognitive model, the bounded rationality model of decision making further admitted that the decision-maker has limited processing capabilities (Lord & Maher, 1990). Therefore, when engaged in a decision process, the decision maker will only be able to consider a limited set of alternatives and information. Emotion, if considered at all, was perceived only as a source of bias that would eventually lead to a pathological decision-making (Elster, 1999; Hirschman, 1977; Solomon, 1993).

After a boom in research coming from neuroscience, the 1990s came with a reconsideration of the role of emotions in decision making and more recent models started to acknowledge and incorporate the interplay between emotion and cognition when making a decision (Dagleish, 2004).

The results concerning the interaction among cognitive factors, affect and motivation when making strategic decisions, as well as their impact upon decision making outputs and effectiveness, are equivocal. As such, in line with Curşeu, Vermeulen & Bakker, (2008), Dane and Pratt (2007), Baron (2004), Smith and DeCoster (2000), Stanovich and West (2000) I argue that a closer look at the underlying information processing mechanisms might serve as an integrative framework for the current disparate results.

A central approach to understanding the human cognitive system is the dual-model of information processing. Although recently adopted by psychology and management theorists (Dane & Pratt, 2007; Baron, 2004; Smith & DeCoster, 2000; Stanovich & West, 2000), the existence of a dual-process model of human cognition comprised of a 'rational' and a 'nonrational' way of thinking can be identified starting with the works of Aristotle (Sloman, 1996).

Similar dual-process model have been advanced and empirically tested in highly specific areas (for a review, see Smith & DeCoster, 2000) such as persuasion and attitude change (Petty & Caccioppo, 1981; Chaiken, 1980), attitude access (Fazio, 1986), person perception (Trope & Gaunt, 1999; Brewer, 1988; Fiske & Neuberg, 1988), social judgment and correction (Martin, Seta & Crelia, 1990), stereotype use and suppression (Devine, 1989), reasoning (Sloman, 1996).

Whether labeled as automatic and controlled processing (Curşeu et al., 2008; Dane & Pratt, 2007), experiential and rational processing (Epstein, 2002), system 1 and system 2 (Kanhneman, 2003; Stanovich & West, 2000; Curşeu et al., 2008), associative and rule based processing mode (Smith & DeCoster, 2000; Sloman, 1996), tacit and deliberate (Hogarth, 2001), the two different processing modes hold similar characteristics across models.

The automatic processing or system 1 is considered to be an earlier acquisition from an evolutionary perspective (Dane & Pratt,

2007; Epstein, 1994). A core feature is that it operates preconscious (Bargh, 1994). System 1 relies on general knowledge structures often associated with affective contents that were stored on previous occasions in the LTM. These heuristic structures are activated by currently available cues in the environment, even if similarities are general and superficial (Gilovich, 1981; Lewicki, 1985). As such, the processing takes place automatically, at a rapid pace, relatively effortless and individuals become aware only of the outcomes of such processing (Dane & Pratt, 2007). These outcomes can be experienced as intuitive or affective responses to objects or events (Smith & DeCoster, 2000). Another hallmark for the automatic processing is the fact that the acquisition of new associations is incremental and slow; system 1 can identify patterns only if consistently observed over time (Smith & DeCoster, 2000).

On the other hand, the controlled processing or system 2 was acquired later during the human evolution (Dane & Pratt, 2007; Epstein, 1994). Unlike system 1, system 2 relies on effortful, analytical and deliberate processing, highly demanding for the computational resources of the cognitive system. As such, system 2 operates sequentially and relatively slow, with conscious awareness both upon the process and the outcomes (Smith & DeCoster, 2000). Controlled processing can be influenced by short and single learning episodes (Hastie, 2001).

Well differentiated in terms of functioning characteristics, the automatic and the controlled processing work together in generating the decision making outputs. Although yet to be empirically proven, it has been argued that system 1 and system 2 operate simultaneously (Hastie, 2001; Chaiken, 1980; Sloman, 1996) rather than sequentially or with a partial overlap (for a more detailed account, see Smith & DeCoster, 2000) and, generally, the outcome of the two processing modes might be identical (Logan, 1988). However, a problem arises when system 1 and system 2 generate

different outputs and, as such, a race of the prevalence of one over the other takes place.

As previously argued, the operation of system 1 imposes minimum or no constraints over the WM since it relies on extant knowledge structures stored in the LTM and it is thus beneficial for the human cognitive systems involved in routine, simple decision tasks (Bargh & Chartrand, 1999, Tversky & Kahneman, 1974). Moreover, studies on experts revealed that the use of intuition – a system 1 process – leads to highly accurate decisions since they rely on cognitive structures stored in the LTM that are very complex and domain specific (Gigerenzer, 2007; Dane & Pratt, 2007; Klein, 2003; Simon, 1996; Dreyfus & Dreyfus, 1986). On the other hand, when the activation of system 1 related processes involves the use of general heuristics that further lead to oversimplified cognitive representations of the decision situation it becomes detrimental for the quality of the decision process (Dane & Pratt, 2007; Tversky & Kahneman, 1974). This is in line with the research of Calori et al. (1994) and Walsh (1995) which hold that there must be a match between the complexity of the cognitive representation of the decision situation and the complexity of the decision situation per se. To sum up, the nature of the decision task (simple vs. complex, well-defined vs. ill-defined) as well as the nature of the knowledge structure employed (simple schemas or heuristics vs. detailed, domain-specific cognitive maps) determine whether the automatic processing is beneficial or not for the decision quality.

The engagement of the analytic system 2 operating on a conscious, rule-based ground can override the flaws of the automatic processing that under the above mentioned specific conditions can negatively impact the decision outcomes (Shafir & LeBoeuf, 2002; Sloman, 1996). By thoroughly weighing the pros and cons of each decision alternative, when engaged in a controlled type of processing, one would develop a complex representation of the

decision situation and reduce the 'irrationalities' associated with the inefficient use of general heuristics, thus conducting towards an optimal result.

Proposition 1: The relationship between the activation of Systems 1 and 2 and the decision effectiveness is mediated by the complexity of the representations activated in the working memory.
Proposition 1a: The activation of System 1 is beneficial for the decision effectiveness when it leads to the activation of complex and domain specific schemas, and is detrimental when it leads to the activation of oversimplified, domain-independent schemas.
Proposition 1b: The activation of System 2 is positively related to the decision effectiveness through the formation of complex and domain-relevant cognitive representations.

Coming back to the race between automatic and controlled processing, when dealing with decision tasks several factors have been identified to enhance the contribution of one system over the other. Among them a significant influence pertains to the emotional factors (moods, emotions) involved in the decision, another to the decision maker's attributes (cognitive capacity, motivation), another to the representational space (type of framing of the decision situation) and yet another to the situation demands (time pressure, justification provision, incentives etc.). Based on the dual-process model described above, a common framework was developed in order to integrate research on cognition, emotion and decision-making and is presented in Figure 1.

1.3.1. The Representational Space: Opportunities and Threats

The cognitive perspective (Brief & Downey, 1983; Dutton & Jackson, 1987; Mahnke, Venzin & Zahra, 2007) on decision making explains the effectiveness of the process and outcomes by emphasizing the

role of the cognitive representations activated in the LTM and the factors that influence these mental models. Driven by their bounded rationality and limited processing capacity (Simon, 1971, 1957), key actors within the SMEs/company create simplified images of their environment in order to deal with the complex strategic decision situations (Boland et al., 2001).

One important variable that has an impact upon the activation of the cognitive representations in the LTM is the category or the framing employed by the decision maker in order to address the issue at hand.

The categorization theory developed by Rosch (1975) holds that, in time, individuals who deal with different situations with certain features form categories based on their similarity. These categories will further help them 'organize' the complexity of the environment with less computational effort involved. Thus one can assume that once a decision situation arises, the entrepreneur as the core decision maker will assign it to the extant categories based on similarity, followed by interpretation and information processing in order to address the issue at hand and make the decision (Dutton & Jackson, 1987).

Similarly, the framing perspective holds that the decision maker will act according to the "decision frame", meaning the conception of the acts, dependencies and outcomes associated with a specific choice. The adoption of a decision frame is determined partly by the problem formulation, partly by the decision maker's previous experience and characteristics (Tversky & Kahneman, 1981). The probabilistic mental model (Gigerenzer, Hoffrage & Kleinbölting, 1991) explains the framing effect as the result of the construction of a mental model of the decision situation. The decision per se is the output of a comparison between the data describing the current situation and cognitive representations stored in the LTM (Curșeu & Schruijer, 2008).

As previously stated, strategic decisions are triggered by complex strategic issues with high stakes for the company characterized by uncertainty. Threats and opportunities are two of the most common yet relevant categories or framings used by entrepreneurs in order to tackle such strategic issues that require making a decision (Christensen et al., 1982). The SDM literature also supports the fact that threats and opportunities are salient categories for strategic issues and consequential for executive decision making – they lead to different decision processes (Dutton & Jackson, 1987; Mintzberg, Raisinghini & Theoret, 1976; Nutt, 1984)

Threats and opportunities differ on three bi-polar dimensions: negative – positive, loss – gain and low control – high control. As such, a threatening decision situation is referred to as 'a negative situation in which loss is likely and over which one has relatively little control', while a decision situation labeled as an opportunity is 'a positive situation in which gain is likely and over which one has a fair amount of control' (Dutton & Jackson, 1987:80). Although empirical work is controversial on the dimension positive versus negative situation in distinguishing opportunities from threats (Milburn, Schuler & Watman, 1983a, 1983b; Staw, Sandelands & Dutton, 1981 – sustain it; Chattopadhyay et al., 2001; Thomas, Clark & Gioia, 1993 – do not support it), they do provide agreement and arguments for the other two dimensions: gain versus loss of resources and increased versus reduced sense of control (Chattopadhyay et al., 2001; Thomas, Clark & Gioia, 1993).

Advancing on the dual-process model of SDM, current research points towards a particular association between the opportunity or threat framing, on the one hand and the processing mode, on the other hand. More specifically, Dunegan (1993) proved that when a decision situation is negatively framed - a hallmark for threat, the individual is likely to engage in a controlled processing mode. That is the decision maker attends to more information pertaining to the

strategic issue and performs a more thorough analysis of the data at hand. On the contrary, when a decision situation is framed in positive terms - a hallmark for opportunity, it is more likely that an automatic processing mode will be triggered. Thus, the decision-maker will attend to less information and perform a less profound analysis of the decision related data.

On the other hand, another stream of research coming from the area of psychological stress, anxiety and arousal – individual reactions associated with threat – points that threat is linked to a narrowing of the range of information processed (Easterbrook, 1959; Staw et al., 1981). Attention is focused on dominant or central cues in the detriment of peripheral cues. Exposure to threat was also associated to a significant reliance upon internal hypothesis and prior expectation (Staw et al., 1981). In terms of the dual model of cognition, we argue that the constriction of information processing and the reliance on pre-existent heuristics are hallmarks for system 1, thus pointing towards an association between threat and the automatic processing mode. This line of reasoning is also consistent with evolutionary arguments holding that under conditions of threat, defined by potential negative consequences for the organism and time pressure, a fast response is required. Thus, in making the 'fight or flight' decision, it is adaptive to rely on pre-encoded response structures stored in the LTM that lead to a rapid, intuitive choice of action.

While the opportunity framing is generally agreed to trigger an automatic processing mode, consensus lacks regarding the clear association of the threat framing with a specific processing mode. A stream of research points towards a link with the controlled processing (Dunegan, 1993), while another stream of research points towards a link with the automatic processing (Staw et al., 1981). An integration of such conflicting results might arise by considering the influences of the emotional space along with the situation demands.

As such, threat – operationalized as a negative situation where loss is likely – would trigger system 2 related processes (Dunegan, 1993). A mechanism contributing to such an effect could be the link among the representational space and the emotional factors when making a decision (Isen & Baron, 1991; Kahneman & Tversky, 1982). More specifically, when confronted with a strategic issue framed as a threat, associated with the experiencing of a negative emotion such as fear (Staw et al., 1981: fear, anxiety have been linked to threat situations), the decision maker is likely to engage in a controlled processing mode – that is a systematic, thorough analysis of the information at hand (Schwarz, 2000; Schwarz & Clore, 1996).

In contrast, threat – operationalized as a negative situation where loss is likely and under time pressure (Lazarus & Eriksen, 1952; Palermo, 1957) – would trigger system 1 related processes (Staw et al., 1981). Thus, the situation demands, meaning the time pressure, could account for this effect (DeVries, Holland & Witterman, 2008; Shafir & LeBoeuf, 2002). Although threat associated with negative affect such as fear would generally be linked to a systematic processing, under time pressure a more rapid processing mode is required in order to generate a timely, adaptive reaction. As such, when the decision maker is confronted with a threatening situation defined by time pressure, an automatic processing mode will be triggered. That is the individual will rely on extant heuristics that require few or no effort and which will further allow him to act quickly, intuitively.

Proposition 2: Individuals who frame the decision situation as an opportunity are more likely to engage in an automatic type of processing - System 1 (Figure 1 – arrow 'c').

Proposition 3a: The relationship between the threat framing and the activation of the controlled processing - System 2 is moderated

by a negative type of affect experienced at the time of the decision (Figure 1 – arrow 'a2'+'d').

Proposition 3b: The relationship between the threat framing and the activation of the automatic type of processing - System 1 is moderated by the situational demands such as time pressure (Figure 1 – arrow 'b').

1.3.2. Emotions

1.3.2.1. Emotion Theories in Decision Making

As previously pointed out, decision making was largely considered a cognitive process, according to which the decision maker carefully weighs the alternatives and makes the choice that will bring maximized utility: the most positive consequences and the least negative ones. However, the dispassionate view of decision making was seriously shaken when research showed that emotion is an important factor in the process. Individuals with emotional deficits due to lesions in specific parts of the brain responsible with integrating emotion in the decision process (ventromedial prefrontal cortex) were proven to make flawed and detrimental decisions, although other cognitive processes such as memory, learning, attention were intact (Damasio, 1994). Moreover, research has pointed out that even incidental affect, unrelated to the decision situation, has a considerable impact on the final choice (Blanchette & Richards, 2009; Clore, 1992; Forgas, 1995; Lerner & Keltner, 2000). And last but not least, including emotional factors in decision making models has been shown to increase their explanatory power (Mellers et al., 1997; Lopes & Oden, 1998).

All in all, whether detrimental – as a source of bias and errors (Elster, 1999; Zajonc, 1998) or beneficial – as a determinant of creativity and extensive processing (Damasio, 1994; Isen, 1993),

emotions clearly serve important functions in the decision process (Zeelenberg et al., 2008).

It is also important to note that emotions can affect the decision making process at different time frames: as immediate emotions, experienced at the moment of a decision irrespective of being related or not to the decision per se, then as expected emotions or predictions about the emotional consequences of the decision outcomes, and finally as post decision affect – meaning emotions related to the evaluation of a past decision (for a review, see Lowenstein & Lerner, 2003). Several theoretical accounts have tried to explain the way emotions influence the decision making process and the most relevant two for our purpose will be briefly reviewed here below.

The affect infusion theory (AIT) (Forgas, 1995; Forgas & George, 2001) holds that affect influences cognitive processes such as decision-making in two ways. On the one hand, the most valuable arguments considered while making a decision are those affectively loaded. They will enter the constructive deliberation and finally will lead to a mood – congruent outcome. On the other hand, the AIT posits that affect selectively influences the information processing as well as the valence of information being processed. That is, decision makers in a certain mood will have the tendency to process especially the arguments or information congruent with their current mood, thus highlighting the strong effect of 'affect infusion'.

Further on, Forgas (2001, 1995) explains that the infusion of affect varies according to the processing strategy employed in the decision situation. The least prone to the impact of mood are the strategies that involve little generative processing: direct access of previously stored responses in the LTM, on the one hand, and the motivated processing strategy according to a preset goal, on the other hand. On the contrary, those strategies that require a more active elaboration and processing of the data at hand are more

susceptible to the affect infusion. These two strategies are the heuristic processing – a more simplified type of processing that relies on mental shortcuts, and the systematic processing – that relies on the integration of the available information with previously stored knowledge structures in order to generate an outcome: the choice.

The affective events theory (AET) (Weiss and Cropazano, 1996) applied on SDM states that organizational events and work related contents trigger the affective responses of the decision makers, which further influence the way they think and behave within the organization when confronted with decision situations. Elements of the organizational environment (e.g. hassles or uplifts, leader-member exchanges, stress-related work events, physical setting etc.) perceived to contribute to or to impede the employees' progress towards the organizational goals lead to positive or negative affective responses. Over time, such repeated associations may lead to a rather stable emotional state at the workplace. The AET posits that such an acquired, stable emotional state will act in the very moment a decision is made, influencing both the process and the content of the decision. More specifically, decision makers that are rather satisfied with their work are likely to experience a positive mood when making a decision and this in turn will favor a heuristic type of reasoning but also more creativity (Schwarz, 2000). On the other hand, a decision maker unsatisfied with ones workplace is likely to experience a negative mood at the time the decision is made and this will further trigger a more analytic type of information processing.

1.3.2.2. The Neurobiology of Emotions and Decision Making

The increasing interest in the past two decades for the involvement of emotional factors in the decision making process was only paralleled by the interest in the neurobiology of emotions. This latter stream of research tried to provide details regarding the brain

structures and circuits that accompany and explain emotions and their influence over decision making and other cognitive processes

Brainstem autoregulatory system, amygdala, insula and other somatosensory cortices, cingulate and orbital-prefrontal cortices, they all bring important yet variable contribution to experiencing emotion while performing cognitive processes ranging form perception to decision making (Dolan, 2002).

The somatic marker hypothesis (Damasio, 1994, 1996) proposes that emotion is a central factor to the decision making process and that there are two critical structures in the neural circuit for making a decision: the amygdala and the orbitofrontal cortex. Patients with bilateral damage of orbitofrontal cortex or the amygdala made poor judgments and decisions in social contexts (Damasio, 1994)

The amygdala is responsible for processing 'primary inducers', meaning emotionally loaded stimuli present within the environment, which are innate or learned to be pleasurable or aversive (e.g. a snake, semantic information such as winning the lottery etc.) (Bechara et al., 2003). The amygdala operates as a convergence-divergence zone which links the features of the emotionally loaded stimulus, further processed subliminally via the thalamus or explicitly via early sensory and higher-order association cortices, with the somatic state associated to the stimulus (Bechara et al., 2003). Evidence to support this role comes from neuroimaging studies showing that the integrity of the amygdala is crucial for learning to associate an emotional loaded stimulus with the appropriate response (LaBar et al., 1998). Also lesion studies have proven that amygdala damage block the response to conditioned, unconditioned emotional stimuli and also to complex cognitive information emotionally valenced through learning, like 'winning' or 'losing' (Bechara et al., 1999)

Another critical structure in the neural system sub-serving high quality decisions is the ventromedial prefrontal cortex (vmPFC).

Studies on patients with localized lesions in the vmPFC have shown that although their overall intellectual function (attention, learning, memory, problem solving) was preserved, they made personally disadvantageous decisions (Bechara et al., 2000). The advanced explanation was that due to the damage in the vmPFC, these subjects fail to evoke appropriate emotional states associated with the analysis of the alternative scenarios one has to decide upon. Basically, they fail to integrate emotion related information into the decision process, impacting the quality of the ultimate choice. The somatic marker hypothesis accounts for this effect, in that the vmPFC is held accountable for providing access to feeling states associated with similar past decisions, while deliberating among the current decision alternatives (Damasio, 1994, 1996).

Empirical evidence for the somatic marker hypothesis includes data from neuroimaging and neuropsychological research indicating that the vmPFC is activated during anticipatory states (Critchley et al., 2001). In addition, normal anticipatory skin conductance response activity (SCR) was proved to be absent in patients with vmPFC lesions when in the position to make a risky decision (Bechara et al., 1996). Such results provide support for the fact that decision making is guided by emotional signals or somatic states, generated when anticipating future events (Bechara, 2004).

1.3.2.3. The Emotional Space

How different types of affect influence decision making has been the subject of a vast area of research documenting the intricate relation between emotion, cognition and ultimately behavior (Isen, 1984, 1999, 2002; Isen & Labroo, 2003; Bless & Schwarz, 1999; Lowenstein & Lerner 2003; Baron, 2008). A common finding referred to the fact that affective states influence which information processing strategy the decision maker will adopt when confronted with a strategic issue (Schwarz, 2000).

Before reviewing and integrating such research, a brief look at the 'emotion' construct would be useful. A first line of researchers focusing on the race between emotion and cognition approached the former as a mere state of arousal, without disentangling among different types of emotional states. Others have approached emotions by also considering the 'feeling' state that results from the appraisal of the arousing situation (Russell, 1978; Schachter & Singer, 1962). Thus emotions vary across the valence continuum, delineating positive from negative emotions (Fillenbaum & Rapoport, 1970). Yet another, more recent stream of research focused on the effects of discrete positive emotions (e.g. happiness, optimism) and discrete negative emotions (e.g. fear, sadness, anger, frustration, contentment) on cognition, thus considering the emotional states in terms of arousal, valence and responses to changes in the status of goals (see Levine & Pizzaro, 2004; Watson & Tellegen, 1985 for a more detailed account on types of emotions). Moreover, a common distinction is made between state affect – driven by the environment or external events – and trait affect – referred to as a rather stable tendency to experience a particular affective reaction across situations – (Isen, 1999). However, extant data indicates that both state and trait affect produce similar effects in many situations (Lyubomirsky, King & Diener, 2005).

Thus, by considering the type of research relevant for our purpose, we will further start to approach the impact of positive versus negative emotions upon information processing strategies during decision making – irrespective of the trait-state dimension, with specific remarks concerning discrete emotions, when extant data allow us. Similarly, for the sake of simplicity, we will use the terms 'affect', 'mood', 'emotion' interchangeably because their boundaries are 'unsharp' (Frijda, 1986:, p. 60)

An extensive body of research coming from the area of persuasion (Schwarz, Bless & Bohner, 1991), the use stereotypes in

impression formation (Bodenhausen, Kramer & Susser, 1994a), the reliance on scripts for behavioral sequences (Bless et al., 1996), reasoning (Mackie & Worth, 1989; Worth & Mackie, 1987) and decision-making (Luce, Bettman & Payne, 1997) sustains that individuals experiencing negative affect become more vigilant information processors. Negative moods facilitate a more systematic, analytic, bottom-up processing, with little reliance on pre-existent knowledge structures yet with a close attention to the specifics of the situation at hand (Forgas, 1995; Schwarz, 2000; Schwarz & Clore, 1988). Within the dual-process model of human cognition these are all hallmarks of system 2 – the controlled processing mode.

Moreover, Forgas (1998) found that being in a negative affective state while processing information leads not only to the activation of system 2 related operations, but also to the overriding of common biases and cognitive mistakes associated to the system 1 – heuristic processing.

The bolstering effect that negative mood has on the systematic processing seems consistent with the 'depressive realism perspective' which holds that depressed individuals make more accurate judgments than normal population, being less susceptible to biases (Blanchette & Richards, 2009; Allan, Siegel & Hannah, 2007).

On the other hand, research on the effects of positive moods on cognition have consistently supported the idea that positive emotions trigger a less systematic information processing, with a greater reliance on previously acquired heuristics and less attention to the details at hand (Bless, 2000; Fiedler, 2000; Forgas, 1995, 2000; Schwarz, 2001). In a study of Mackie and Worth (1989) on exposure to persuasion, participants in a positive mood judged the validity of the arguments by relying on superficial cues such as the expertise of the source, rather than relying on the strength of the arguments, thus pointing towards a heuristic processing mode.

The underlying mechanisms advanced to explain the link between negative affect and the controlled processing style on the one hand, and the link between positive affect and automatic processing style on the other hand, are diverse and still need integration. Three major types of explanations for these effects have been put forward: related to capacity, motivation and information, claiming that different information processing strategies arise due to the valence of affective states.

Based on associative network theories, capacity explanations hold that the link between the positive mood and system 1 is related to a spread of activation. Since positive affect is associated with many conceptual nodes, when experiencing a positive mood during the decision making process, this will further lead to a state of cognitive busyness and an automatic processing style (Mackie & Worth, 1991).

Motivational explanations posit that individuals are characterized by a desire to repair negative states and maintain positive ones (Isen, Nygren & Ashby, 1988). Thus, when experiencing a negative mood during the decision making process, the decision maker will be motivated to process the data at hand in a more extensive manner since this would be a possible means to reduce negative experiences (Bless et al., 1990; Wegener et al., 1995). Similarly, a positive mood experienced during the decision making process will lead to a drop of motivation to process the message thoroughly and thus to the activation of system 1 (Bodenhausen et al., 1994a).

Affect as information theory holds that the valence of an emotional state directly informs the individual's judgment (Schwarz & Clore, 1983; Slovic, Finucane, Peters & MacGregor, 2002). Experiencing a negative affect during the decision making process is a signal that the decision situation might include a threat to the achievement of desired goals, calling for a systematic and careful processing. Similarly, a positive mood might indicate that the

decision environment is benign and relatively safe, leading to an automatic processing mode (Schwarz, 1990).

While most of the research investigated the link between the processing strategy and the generic categories of positive versus negative emotions – mostly assimilated to sadness, some work focused on the impact of discrete emotions on the processing style.

In a study of differences between sadness and anger on information processing strategies employed in persuasion and guilt assessment tasks, Bodenhausen, Sheppard and Kramer (1994b) proved that while sadness is associated to systematic processing, individuals in an angry state show a greater reliance on stereotypes, thus on a heuristic, automatic processing mode. Similarly, Tiedens and Linton (2001) found that negative emotions related to certainty (e.g. anger, disgust, contentment) lead to a greater reliance on superficial cues (e.g. stereotypes, the source expertise) specific to the automatic processing mode. On the other hand, individuals experiencing negative emotions related to uncertainty (e.g. worry, surprise, fear) were less likely to use such peripheral cues when exposed to persuasion.

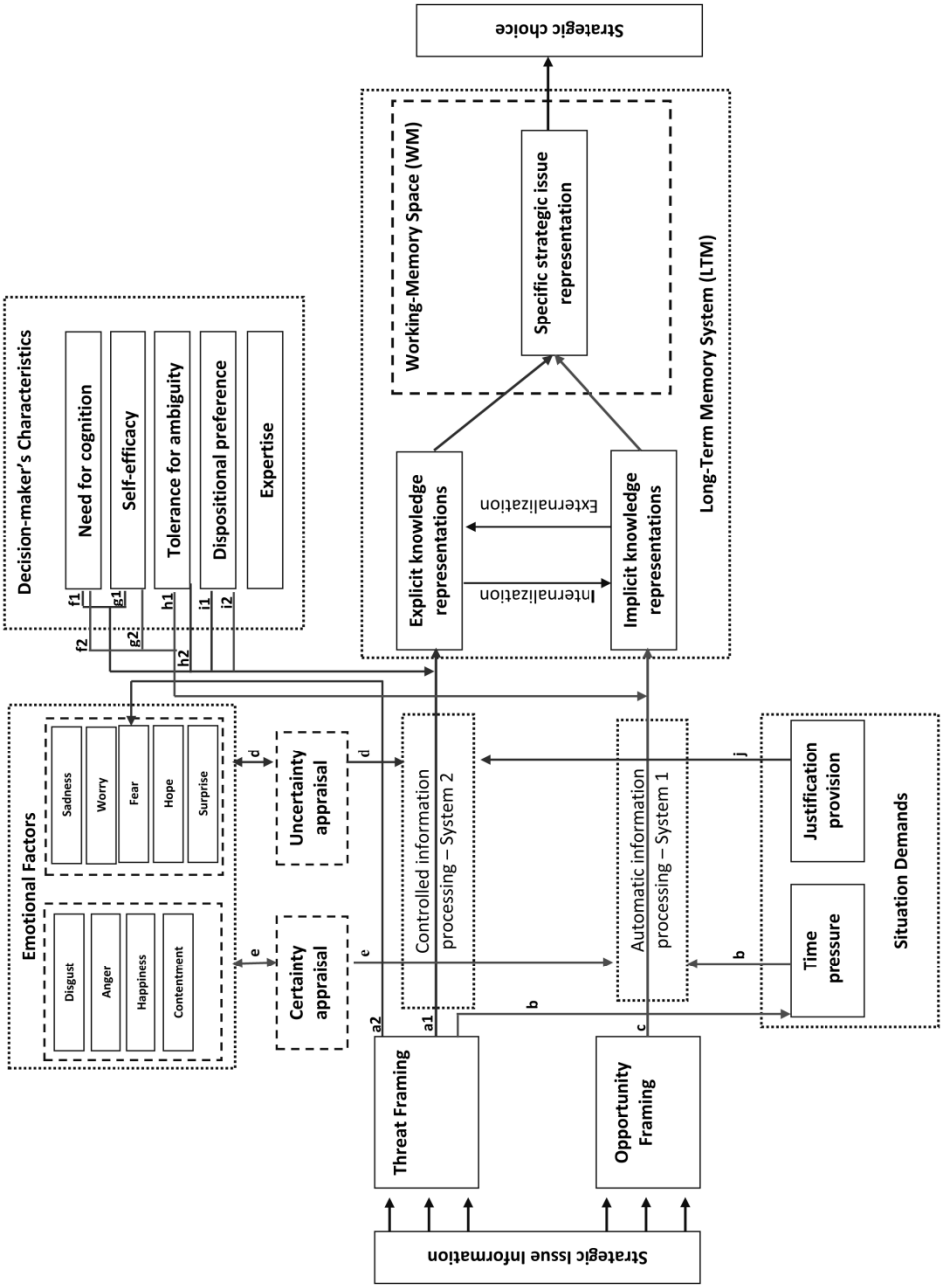
The previously mentioned valence-based theories fail to account for such different effects of discrete emotions pertaining to the same valence category (e.g. sadness versus anger) on information processing. This further leads to the idea that other dimensions of emotions beyond valence should be taken into consideration in advancing a comprehensive explanation. This is also in line with the research of Zeelenberg et al. (2008) who posit that different types of emotion differ in the functions they serve for decision making processes.

Lerner and Keltner (2000, 2001) proposed the Appraisal-Tendency Framework (ATF) as a means of analyzing the effects of specific emotions on information processing and decision making. Appraisal theorists (Arnold 1960; Frijda 1986; Lazarus, 1968; Scherer,

1988; Roseman et al., 1990) assume that a discrete emotion is not elicited by the situation per se, but rather by the evaluations and interpretations an individual performs over the event on several dimensions such as: valence, certainty, attentional activity, control, anticipated effort, responsibility (Smith & Ellsworth, 1985). Each specific emotion is described by a certain pattern of appraisal on the above mentioned dimensions (Smith & Ellsworth, 1985).

FIGURE 1

Dual Process Model of Strategic Decision Making



Tiedens and Linton (2001) extended the framework and proved that the two information processing systems: automatic versus controlled are differently associated to emotions described by specific patterns of appraisals on the certainty-uncertainty dimension. That is, emotions associated to certainty (happiness, anger, contentment) will drive an automatic, more superficial processing style, while emotions associated with uncertainty (worry, surprise, fear) will lead to a controlled and systematic processing style when making a decision. The mechanism underlying such effects builds upon the affect as information view and holds that discrete emotions have the potential to inform the individual about more than whether the situation is positive or negative (relying on the valence dimension). A specific emotion can inform the individual on other dimensions of appraisal, such as certainty and this has an impact on the individuals' depth of processing (Schwarz, 2002; DeSteno et al., 2000). Thus, experiencing emotions related to certainty during a decision situation basically informs the individual that extensive processing is not required. On the other hand, experiencing emotions related to uncertainty will signal that a more profound and systematic information processing style is required in order to tackle the decision situation (Tiedens & Linton, 2001).

Previous theories on social cognition have already emphasized the role of the certainty versus uncertainty in driving a more or less effortful cognitive process. Related to the liaison between uncertainty and effortful cognitive processes, Heider (1958) and Kelley (1973) argued in their attribution theories that our tendency to investigate the causes of the surrounding events is the result of uncertainty. Similarly, Festinger (1954) argued that individuals are likely to engage in social comparison processes whenever they feel uncertain about themselves. On the other hand, theories and studies of attitude change and mood emphasized the connection between feelings of certainty associated to positive moods and the

engagement in a heuristic (thus less profound) type of processing (Martin et al., 1993). The explanation referred to the sufficiency threshold (Chaiken et al., 1989) and argued that when in a positive mood, an individual acquires a subjective feeling of certainty which does not justify the engagement in a more systematic, effortful processing.

To our knowledge, little to no research has so far tackled the impact of discrete negative or positive emotions on the information processing strategies when dealing with strategic decisions, yet it is not unreasonable to assume that similar effects will be registered. When confronted with a strategic issue, decision makers who experience anger, disgust – negative emotions related to certainty – or contentment, happiness – positive emotions related to certainty – (Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985) are likely to engage in an automatic processing mode, with higher reliance on heuristics. On the other hand, decision makers who experience hope, surprise, fear, worry, and some forms of sadness - emotions associated with uncertainty (Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985) – are likely to engage in thorough, systematic, bottom-up processing. Further research is needed to document the impact of certainty and uncertainty related emotions on information processing styles when dealing with a decision task.

Proposition 4a: Individuals experiencing positive or negative emotions related to a certainty appraisal are more likely to engage in an automatic type of processing - System 1 (Figure 1 - arrow 'e').
Proposition 4b: Individuals experiencing positive or negative emotions related to an uncertainty appraisal are more likely to engage in a controlled type of processing - System 2 (Figure 1 - arrow 'd').

Moreover, although certainty related emotions increase and uncertainty related emotions decrease the reliance on heuristics or system 1 related processes, the effects elicited by appraisal can be overridden by other factors related to the decision situation such as accountability (Bodenhausen, Kramer and Susser, 1994a), or related to the decision maker's characteristics such as increased processing motivation (Fiske & Neuberg, 1990; Kruglanski, 1989). Further research should also focus on documenting the exact interplay among emotions, situation demands and decision maker's characteristics in choosing one processing strategy over the other.

1.3.3. The Decision Maker's Characteristics

Within SMEs, the decision maker is usually one individual: the manager or the entrepreneur. He is the one to bear the responsibility for the decision and also the one to cope with its immediate consequences (Brouthers, Andriessen, Nicolaes, 1998). Thus, one set of factors influencing the decision making process in terms of information processing but also effectiveness are the characteristics of the decision maker such as: need for cognition, tolerance for ambiguity, self-efficacy (Iederan, Curşeu & Vermeulen, 2008), dispositional preference for intuitive versus deliberative decision making (Betsch & Kunz, 2008) or expertise (Dane & Pratt, 2007).

Several dual models of information processing like the Heuristic-Systematic Model (Chaiken et al., 1989) or the Elaboration Likelihood Model (Petty & Cacioppo, 1986) have clearly postulated the influence of cognitive motivation along with ability upon choosing one processing strategy over the other. While the decision maker's motivation to process the information at hand can be instilled by situational factors such as justification provision, it can also be instilled by dispositional factors.

Initially introduced by Cohen (1955), need for cognition (NFC) was further conceptualized by Cacioppo and Petty (1982) as an

intrinsic motivation for and enjoyment of engaging in effortful cognitive activities. Individuals with high NFC actively search for information and are more thorough in evaluating the alternatives when actually making a choice (Bailey, 1997). Also, as a result of the extensive information search, decision makers high in NFC develop a more complex representation about the decisional situation (Iederan, Curşeu & Vermeulen, 2008). Moreover, Curşeu (2006) showed that need for cognition is positively associated with rationality in decision making and the time spent to analyze the information at hand. On the other hand, individuals low in NFC tend to rely on cognitive heuristics, social comparison or the source's expertise (Cacioppo and Petty, 1982; Cacioppo et al., 1996).

Therefore, building on the dual-process model of decision making, it is not unreasonable to assume that high levels of NFC are positively associated with a controlled style of processing when making a decision: with an extensive analysis of the data at hand and little reliance on peripheral cues and previously stored general knowledge structures. Analogous, individuals low in NFC, with no enjoyment of effortful cognitive tasks, are likely to engage in an automatic, mostly effortless processing style that marches on using cognitive shortcuts when making a decision rather than thoroughly analyzing the available information.

Proposition 5: Need for cognition is positively associated with the activation of system 2 - the controlled style of processing (Figure 1 - arrow 'f1') and negatively associated with the activation of system 1 - the automatic style of processing (Figure 1 - arrow 'f2') when making a decision.

Incomplete or ambiguous information are common hallmarks of strategic decisions. The ability to cope with such ambiguity is therefore another relevant factor for the effectiveness of information

processing and the decision making process per se. Tolerance for ambiguity (TA) is a motivational trait that describes the extent to which a decision maker is confident in making a choice when she/he is aware that relevant information is missing (Budner, 1962). People high in TA are usually confident in the decisions they make even when the information available is ambiguous or insufficient. As such, these individuals do not extensively search for additional information to clarify or reduce ambiguity and develop less complex representations of the decision situation (Iederan, Curşeu & Vermeulen, 2008). These premises lead to the idea that high levels of TA inform the decision maker that there is no need for an extensive information search and will thus lead to an automatic style of processing. On the other hand, low levels of TA associated with a perceived threat and lack of confidence generated by the ambiguous information at hand will be associated with an extensive search of information and the activation of a systematic style of processing.

Proposition 6: Tolerance for ambiguity is positively associated with the activation of system 1 - the automatic style of processing (Figure 1 - arrow 'h1') and negatively associated with the activation of system 2 - the controlled style of processing (Figure 1 - arrow 'h2') when making a decision.

Self-efficacy (SE) refers to the trust one has in his capability to mobilize and dispose of his cognitive and motivational resources in order to persist and efficiently address a certain task (Wood & Bandura, 1989; Bandura, 1977). While research on SE and performance in several tasks is highly generous, we will only focus here on the impact SE has on information processing and further try to develop upon the dual-process model of decision making.

With respect to information processing, high levels of SE help decision makers to process information at a faster pace and stay

more focused on goals and objectives in decisional situations (Forbes, 2000). Moreover, individuals high in SE are better able to concentrate on the task at hand, manage their cognitive resources in a more effective manner (Bandura, 1977) and thus, develop a more complex representation of the decision situation (Iederan, Curşeu & Vermeulen, 2008). Also, high levels of SE are associated with an increased commitment in handling difficult tasks and a reduced probability of avoiding behaviors in cognitive tasks (Gist & Mitchell, 1992). Building upon the above mentioned data, high levels of SE seem to trigger a controlled style of processing, with decision makers being more focused on the decision situation at hand and showing high involvement in extensive and complex information processing. On the contrary, low levels of SE associated with low involvement in cognitive tasks and less effective management of cognitive resources are more likely to trigger a rather effortless automatic processing style when tackling a decision situation.

Proposition 7: Self efficacy is positively associated with the activation of system 2 - the controlled style of processing (Figure 1 - arrow 'g1') and negatively associated with the activation of system 1 - the automatic style of processing (Figure 1 - arrow 'g2') when making a decision.

One question that has been raised concerned the fact whether individuals might show a specific and rather stable decision making style in terms of an individual preference for the automatic (arrow 'i2') versus controlled processing type (arrow 'i1'). Several experimental studies support this hypothesis. Results have already proven that individuals with a preference for the intuitive decision making style, as assessed by several inventories (Betsch 2007; Scott & Bruce, 1995) make faster decisions (Schunk & Betsch, 2006) and heavily rely on implicit knowledge as compared to individuals with a

preference for the deliberative style of decision making (Richetin, Perugini, Adjali, & Hurling, 2007).

1.3.4. The Situation Demands

When a key actor within an organization – the entrepreneur – makes a decision, the process does not happen in a vacuum. Several characteristics of the decision situation impact in highly specific ways the quality and the content of the decision process.

One such variable pertaining to the context is time pressure. As previously argued, studies from the area of psychological stress, anxiety and arousal, all individual reactions elicited under conditions of time pressure, have so far pointed towards a link with characteristics of the automatic processing style or system 1: a narrowing of the range of information processed (Easterbrook, 1959; Staw et al., 1981) and reliance on pre-existent general knowledge structures (Staw et al., 1981). Evolutionary speaking, the association of a situation that requires making a decision under time pressure with the system 1 type of processing culminating with a rapid choice is an adaptive reaction of the organism when exposed to possible threats. Still, more research is needed in order to clarify the moderating effect of time pressure on information processing style when making a decision.

Proposition 8: Time pressure as a characteristic of the decision situation is positively associated with the activation of System 1 (Figure 1 - arrow 'b').

Another context related variable with a considerable impact upon the choice of information processing strategy in a decision situation is the justification provision. Asking individuals to justify their response after making the decision was proven to increase the decision maker's motivation to process the data at hand and employ a controlled processing style, irrespective of other variables acting at

the moment (e.g. affect). Sieck and Yates (1997) and Takemura (1994) have shown that justification reduces the incidence of framing effects related to the automatic style of processing. Moreover, in a previously mentioned study, Bodenhausen, Kramer and Susser (1994a) showed that people in a positive mood are likely to engage in an automatic type of processing, with a greater reliance on stereotypes. Yet when in another experimental condition when the participants were asked to justify their responses, the effect vanished.

Proposition 9: Inquiring about the decision rationale is positively associated with the activation of System 2 (Figure 1 - arrow 'j').

1.4. CONCLUSIONS

The literature on decision making is growing at a fast pace, with several disciplines such as psychology, neuroscience and economics, claiming the leading position. Originally, they have all separated emotion from cognition (Neisser, 1967) and in the particular case of decision making they completely discarded the role of the affective states. Thus, decision making was initially considered an exclusive cognitive and rational process, a matter of estimating the utility and probability of several alternatives.

However, more recent research undoubtedly proved the importance of including emotional factors in decision making models (Mellers et al., 1997; Lopes & Oden, 1998). Different streams of research communicated different outputs concerning the role of affect in decision making. Some have emphasized the negative impact of emotions (Elster, 1999; Solomon, 1993; Zajonc, 1998), while others promoted the positive functions of affective states in decision making processes (Damasio, 1994; Isen, 1993).

More pragmatically, concerned with the question of decision making effectiveness especially in the organizational environment, some theorists have focused on the impact of the decision maker's characteristics, while others looked at the particular setting where the decision process unfolds.

The goal of this chapter was to integrate such research efforts into a coherent model of decision making, arguing that only such an approach could contribute to a more clear response concerning the effectiveness of the decision making process within organizational settings. As such, driving on the dual model of information processing, we have discussed the way emotional, cognitive and motivational factors pertaining to the decision maker contribute to the decision making process, while also considering some of the important variables related to the context.

CHAPTER 2

EFFECTIVE DECISION-MAKING: THE ROLE OF COGNITIVE COMPLEXITY IN STRATEGIC DECISIONS[1]

Abstract

The present study tests the mediating role of cognitive complexity in the relationship between a set of motivational attributes (self-efficacy, need for cognition and tolerance for ambiguity) and decision-making effectiveness. The model is tested using structural equation modeling in a sample of 59 Romanian entrepreneurs and the results support a partial mediation model. On the one hand, cognitive complexity partially mediates the relationship between self-efficacy and decision-making performance and on the other hand, cognitive complexity fully mediates the relationship between need for cognition and decision performance. The mediation hypothesis concerning for tolerance to ambiguity is not supported.

[1] This chapter is based on: IEDERAN (FODOR) O.C, CURŞEU, P. L., VERMEULEN P.A. M. (2009). "*Effective decision-making: The role of cognitive complexity in strategic decisions*". **Studia Psychologica**, 51, 4, 293-304

2.1. INTRODUCTION

The success of entrepreneurial firms is to a large extent dependent upon strategic decision-making practices. Strategic choices made by small business owners are at the heart of their business activity (Robinson & Pearce, 1983). They often engage large amounts of organizational resources to achieve ambitious organizational goals and thus have major implications for organizational effectiveness. Strategic decision-making is an intentional and goal directed cognitive process of selecting an alternative from several available, when only incomplete information on the alternatives and their possible outcomes is available and the facts, variables and contingencies involved in the decision situation are highly complex (Curşeu, Vermeulen & Bakker, 2008). A distinctive characteristic of strategic decision-making in SMEs is that the entrepreneur or owner[2] usually bears the responsibility concerning the decision and has to cope with its immediate consequences (Brouthers, Andriessen & Nicolaes, 1998). Therefore, dispositional factors are very likely to play a key role in the way entrepreneurs make strategic decisions.

Previous research has extensively explored dispositional factors (such as self-efficacy, and tolerance for ambiguity) that influence entrepreneurial decisions and especially the ones that differentiate entrepreneurs from managers or other categories of decision makers (e.g.; Chen, Greene & Crick, 1998; Forbes, 2005, Markman, Balkin & Baron, 2002; Palich & Bagby, 1995; Teoh & Foo, 1997). Despite general scholarly agreement that most of these dispositional differences can be traced back to differences in information processing, the role of cognition in strategic decisions remains a

[2] Although I recognize the distinction between entrepreneurs and owners of small and medium sized businesses, I use these interchangeably in this study. In this empirical study, I studied the current founders and owners of Romanian SMEs that were actively engaged in strategic decisions regarding their firms' activities. Moreover, the respondents in this sample were the first group of entrepreneurs to start a business in the post-communist era in Romania.

rather unexplored area. Several studies (Baron & Ward, 2004; Clark & Mackaness, 2001) call for empirical studies exploring the role of cognitive representations in decision-making arguing that this may improve our understanding of the interaction between process and contextual variables in strategic decision-making (Hastie, 2001). Because strategic decisions are highly complex, a particularly important characteristic of cognitive representations related to decision outcomes is their structural complexity, or cognitive complexity (Curşeu, 2008). In this study we test whether the cognitive complexity of entrepreneurs mediates the impact of several motivational traits (need for cognition, self-efficacy and tolerance for ambiguity) on decision-making effectiveness.

To conclude, the aim of this study is to contribute to the literature on entrepreneurial strategic decision-making in several ways. First, the current study adds a cognitive perspective to the literature on strategic decision-making and tests a core assumption, namely that cognitive complexity mediates the impact of motivational attributes on decision-making effectiveness. We hypothesize that high self-efficacy, high need for cognition and low tolerance for ambiguity lead to highly complex cognitive structures, which then positively impacts on decision-making effectiveness. Second, we shed light on some of the cognitive factors underlying strategic decisions in SMEs, a domain that was rather unexplored until now. Most research on strategic decision-making is still aimed at large firms. Third, we further develop the operationalization of cognitive complexity and we use cognitive mapping to elicit and evaluate the integrative cognitive complexity of small firm owners. Cognitive complexity is measured in this study by mapping respondents' oral statements concerning strategic decisions and is conceptualized as a hallmark of information processing structures in strategic decisions.

2.2. THEORY AND HYPOTHESES

In most studies of decision-making, two perspectives have long dominated: the rationality/bounded rationality perspective and the political perspective. A heated scientific debate over rationality claims in decision-making has been ongoing since 1950. As a rational agent, a decision maker is assumed to have explicit and clearly defined aims, to be able and motivated to collect all available information in order to develop alternatives and select the best one based on logical reasoning (Allison, 1971; Curşeu, 2006; March & Simon, 1958). However, individuals have only limited cognitive resources to process information and are not always motivated to oversee all consequences of their choices, which means that "people intend to act rational, but do so only limitedly" (Simon, 1957: xxiv). In the political perspective it is argued that multiple actors with conflicting goals enter the decision arena. Individuals tend to form coalitions to have their interests taken care of (Eisenhardt & Zbaracki, 1992). The strategic choices will therefore reflect the collision or collusion of interests rather than a pure cognitive act of an isolated decision maker.

Other, partly overlapping, perspectives that have been identified in the literature are the garbage can model (Eisenhardt & Zbaracki, 1992), the organizational and contextual views on decision making (Schoemaker, 1993). Hendry (2000) argues that these streams of research are 'traditional' perspectives in which actions (or changes) follow logically from decisions taken at some point earlier in time. He introduces two divergent perspectives that are posed as a critique to the traditional perspective: (1) the action perspective, in which decisions are used to motivate and mobilize resources for actions that have already been chosen (Hendry, 2000: 959) and (2) the interpretative perspective, where decisions are located, articulated and ratified, "bringing it forward to the present, and

claiming it as the decision that has just been made" (Hendry, 2000: 961).

Without disregard to the valuable contribution each of these perspectives has made, it appears that few of the studies presented in these overviews incorporated an in-depth cognitive perspective on decision-making. Moreover, these models were often tested in large firms and few attempts were made to test these models in SMEs. In these firms, there is less room for politics since the owner makes the decisions individually and there are few coalitions to be built. Large firms often develop decision-making protocols and routines that simplify the process of decision-making for managers. Small firm entrepreneurs do not develop such routines, they often act on the basis of opportunism and they tend to use heuristic rather than analytic decision-making strategies (Busenitz & Barney, 1997). Also, the decision-making processes in small firms tend to deviate from the rationality assumptions and entrepreneurs often decide in a heuristic rather than a rational way (Brouthers et al., 1998; Byers & Slack, 2001; Rice & Hamilton, 1979).

Because in SMEs strategic choices are often made by lone individuals and the context for strategic decision-making in small firms differs from the context in large firms, a cognitive perspective is extremely suitable for improving our understanding of strategic decisions in SMEs. The SME environment is dynamic and complex. Although this may also apply to large firms, the effects of dynamism and complexity seem to be stronger for smaller firms (Busenitz & Barney, 1997). Furthermore, in a more dynamic and complex environment it is believed that the comprehensiveness (or rationality) of strategic decision processes tends to be lower (Fredrickson & Mitchell, 1984), the impact of emotions is stronger (Kunreuther, Meyer, Zeckhauser, Slovic, Schwartz, Schade, Luce, Lippman, Krantz, Kahn & Hogarth, 2002) and therefore cognitive issues become more important (Forbes, 1999). Hence, our focus on

small and medium sized firms lends itself for adding a cognitive perspective to the literature on strategic decision-making.

Cognitive theories and models are used to explain strategic decision-making processes (Brief & Downey, 1983; Dutton & Jackson, 1987), problem solving (Lang, Dittrich & White, 1978), organizational socialization (Ashfort & Mael, 1989), intergroup conflict (Ashfort & Mael, 1989), career success (O'Reilly & Chatman, 1994), or power dynamics (Krackhardt, 1990) in organizations. The most influential cognitive models explain the effectiveness of decision-making in organizations by stressing the impact of activated cognitive representations on the decisional outcome. Interpretative as well as concrete and unambiguous cognitive representations are more effective in producing superior decisional outcomes and increasing decisional thinking as compared to more general cognitive representations (Boland, Singh, Salipante, Aram, Fay & Kanawattanachai, 2001). These types of cognitive representations are more complex because they capture a larger number of relationships between the concepts of a knowledge domain. Consequently, cognitive complexity is a core factor influencing the way in which entrepreneurs make decisions and solve problems.

2.2.1. Cognitive Complexity

Initially considered a general personality characteristic (Bieri, 1955), cognitive complexity was redefined by Schröder, Driver and Streufert (1967) as a domain specific information-processing variable strongly connected to expertise. Individuals with a high level of cognitive complexity possess a highly differentiated, articulated and integrated conceptual system along with flexible information-processing rules concerning data from a particular domain. As far as entrepreneurs are concerned, a high level of cognitive complexity reflects the capacity to perceive the decision situation from multiple, complementary perspectives.

According to Streufert and Streufert (1978) and Streufert and Swezey (1986) individuals with a high level cognitive complexity (CC) perform better in medium or highly complex tasks. They also stress the importance of matching the complexity of the environment with the decision maker's CC. Also, CC was found to be positively correlated to efficient outcomes of the organizational decision-making (Ceci & Liker, 1986) due to the entrepreneurs' ability to take into consideration multiple alternatives and perspectives of a strategic problem. Individuals with high CC process a larger amount of information (Blaylock & Rees, 1984), transmit more information (Tripodi & Bieri, 1964), better differentiate and integrate the information (Goodman, 1968) and process information more effectively, which has direct consequences for the strategic decision-making and problem solving processes. In the same manner, Thorne (1986) suggests that decision makers with low CC have difficulties in adjusting their management style in order to effectively deal with a complex task. To summarize, strategic decisions involve higher levels of environmental complexity, uncertainty and unpredictability and therefore the cognitive complexity of the decision maker is a central requirement for a successful decision-making process. Therefore our first hypothesis is:

Hypothesis 1: Cognitive complexity has a positive impact on the effectiveness of strategic decisions.

Cognitive representations are ways of reducing environmental complexity and help decision-makers to impose order in volatile and uncertain environments (Porac & Thomas, 1990; Wood & Bandura, 1989) and they affect decision-making processes and outcomes (Boland et al., 2001). In a more general context, decisions are determined by the interplay between cognitive, motivational and emotional factors (Peklaj, Žagar, Pečjak & Puklek Levpušček, 2006; Reed, 2006) and cognitive representations are conceptualized as

mediators in the relation between the situational cues (knowledge) and behavior (Davis & Luthans, 1980; Gioia & Manz, 1985; Wood & Bandura, 1989; Wyman, & Randel, 1998). Because entrepreneurial strategic decisions involve usually only one actor (the entrepreneur) it is very likely that the motivational traits influence the CC of the entrepreneur and subsequently play an important role in the quality of these decisions. The impact of several dispositional characteristics on venture formation and SME's performance are nowadays central topics in entrepreneurship research and a few motivational characteristics received considerable attention in the literature on decision-making (namely need for cognition, self-efficacy and tolerance to ambiguity). The influence of these motivational traits on decisional outcomes is most probably mediated by information processing mechanisms, which will ultimately impact on the cognitive representations developed by the decision maker. Therefore, cognitive complexity is expected to act as a mediator between motivational factors and strategic decision effectiveness.

2.2.2. Need for Cognition

An important individual difference that impacts on the quality of decisions through cognitive complexity is cognitive motivation or need for cognition. Need for cognition is the tendency for an individual to engage in and enjoy thinking (Cacciopo & Petty, 1982). Individuals high in need for cognition are willing to make more cognitive effort in order to solve a cognitive task, show a propensity for active information search as well as for a more thorough, elaborated and accurate cognitive processing. Previous research shows that individuals high in need for cognition are more effective in information processing tasks, have better logical reasoning abilities and perform better in problem solving tasks (Cacioppo, Petty, Feinstein & Jarvis, 1996). Moreover, Curşeu (2006) shows that need for cognition is positively associated with rationality in decision

making and the time spent to analyze the information at hand as well as negatively related to indecisiveness. People high in need for cognition tend to seek information in order to reduce uncertainty have an analytic rather than intuitive cognitive style (Cacioppo, Petty, Feinstein & Jarvis, 1996) and report higher levels of self-esteem (Sarmány-Schuller, 1999). People with high levels of self esteem are more likely to engage in extensive information search and due to their analytic cognitive style are more likely to be more effective in information processing (Blaylock & Rees, 1984; Cacioppo et al., 1996; Ruisel, 2004; Sarmány-Schuller, 1998; Sarmány-Schuller & Simuth, 2006). We can therefore conclude that people with high NFC elaborate more complex conceptual representations of the task, because they also spend more time and effort in dealing with the task and consequently they do have a better performance (Baugh & Mason, 1986; Leone & Dalton, 1988).

Bailey's results (1997) concerning the influence of NFC in organizational settings support the previous statement and prove that entrepreneurs high in NFC actively search for information, are more thorough in evaluating the alternatives of a decision-making situation and actually making a choice. Since information search and information evaluation are key elements of integrative complexity, we hypothesize the following with regard to need for cognition:

H2: The positive impact of need for cognition on decision-making effectiveness is mediated by cognitive complexity.

2.2.3. Self-efficacy

Self-efficacy has been defined as the trust in one's own capacity to dispose of his cognitive and motivational resources in order to persist in and efficiently solving a specific task (Wood & Bandura, 1989). Entrepreneurial self-efficacy (Chen et al., 1998) describes an individual's set of beliefs that she/he is able to perform tasks related to new-venture formation and management. This study is however

not concerned with this type of self-efficacy, but rather with the concept of general self-efficacy, which is a situation independent competence belief (Scherbaum, Cohen-Charash & Kern, 2006).

The relationship between self-efficacy and individual performance is complex and bidirectional. With respect to information processing, general self-efficacy leads to a high level of concentration and a more effective management of cognitive resources (Bandura, 1977). However, positive decisional outcomes can also boost self-efficacy as shown in a study by Forbes (2005). Therefore self-efficacy and individual performance in information processing tasks are interdependent (Bandura & Locke, 2003; Kováčová & Sarmány-Schuller, 2008; Peklaj et al., 2006). In organizational settings, empirical studies show that high levels of self-efficacy help entrepreneurs to process strategic information faster, as well as to stay more focused on goals and objectives in decisional situations (Forbes, 2000). In other words, due to the high involvement in information processing, entrepreneurs high in self-efficacy are expected to develop more complex representations about the decision situation. Moreover, a high sense of self-efficacy increases the commitment in dealing with complex tasks and reduces the probability of showing avoiding behaviors in cognitive tasks (Gist & Mitchell, 1992) and thus has a direct impact on the outcomes of a decision. Therefore our third hypothesis is:

H3: The positive impact of self-efficacy on decision-making effectiveness is partially mediated by cognitive complexity.

2.2.4. Tolerance for Ambiguity

Strategic decisions often involve incomplete or ambiguous information. Ambiguous situations are difficult to categorize and understand because of the lack of direct and relevant cues (Budner, 1962). The capacity to cope with these ambiguous situations is therefore relevant for the effectiveness of information processing. In

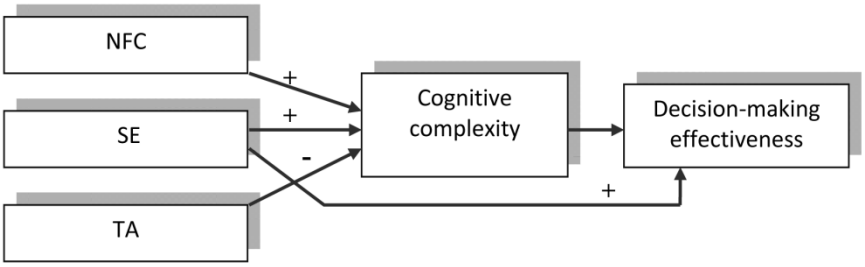
a study of top Fortune 500 startup companies, Bhide (2000) shows that the most successful entrepreneurs are those capable of operating with incomplete information. In Bhide's view, tolerance for ambiguity refers to making informed choices in conditions in which it is known that relevant information is missing. Therefore, tolerance for ambiguity describes the extent to which a person is confident of making decisions in ambiguous situations or, in other words, the extent to which a decision maker is confident in making a choice when she/he is aware that relevant information is missing.

People high in tolerance for ambiguity are usually confident in the decisions they make even when the information available is ambiguous or insufficient. Very often these individuals do not extensively search for additional information to clarify or reduce ambiguity. Individuals with a low tolerance for ambiguity usually feel threatened by ambiguous situations or ambiguity in general and they try to reduce it by looking for information and impose a structure which will make the situation easier to understand and categorize and will increase their confidence when taking actions (Dermer, 1973; Kirton, 1981; Norton, 1975; Teoh & Foo, 1997). Therefore, tolerance for ambiguity is very likely to be detrimental for cognitive complexity because of the restricted information search associated with a high tolerance for ambiguity. By reducing cognitive complexity, tolerance for ambiguity will negatively impact on decision effectiveness in complex strategic issues. Therefore our fourth hypothesis is:

H4: The negative impact of tolerance for ambiguity on decision-making effectiveness is mediated by cognitive complexity.

The conceptual model is summarized in Figure 1.

FIGURE 1
Overall Conceptual Model



Legend: NFC – need for cognition, SE – self-efficacy, TA – tolerance for ambiguity

2.3. METHODS

2.3.1. Sample and Procedure

In modern Romania, SMEs flourished only after the fall of the communist regime in 1989 and at the time this study was conducted, most of the SMEs were family owned business, aimed at providing a sufficient income for the family. Thirty-eight SME owners were interviewed for this study. The objective of the non-probabilistic sampling procedure (snow-ball) was to obtain a sample of Romanian SME owners who had been involved in making at least one strategic decision regarding their organization in the past three years. Several SMEs in Central and North-West Romanian counties were contacted and each entrepreneur who was selected in the first pool and went through the data collection procedure was asked to recommend other potential respondents from the same industry as well from other industries as long as they meet the preset study conditions.

Data from 59 entrepreneurs (from the following industries: commerce and services, construction, architecture) who provided extensive data on a strategic decision made in the last three years (ranging from new product development, change of market strategy,

change of internal processes, and temporary termination of activity) were included in the study. The respondents were first asked to fill in a questionnaire (with background information as well as the three independent variables used in the study) and then they were interviewed about the nature of their strategic decision.

2.3.2. Independent Variables

Need for cognition was evaluated using a shortened version (seven items) of the Need for Cognition Scale elaborated by Cacioppo and Petty (1982). The items were selected from a Romanian translation and adaptation of the NFC scale, based on their high factor loadings. Illustrative items are: "I like to have the responsibility of handling a situation that requires a lot of thinking" and "really enjoy a task that involves coming up with new solutions to problems". The Cronbach's alpha for the NFC scale is 0.74.

Self-efficacy was evaluated through six items selected from the General Self Efficacy Scale elaborated by Chen, Gully & Eden (2001) based on the values for item information functions reported in Scherbaum et al. (2006). An illustrative item is: "I will be able to achieve most of the goals and plans I have set for myself and my company" or "In general I think I can obtain outcomes that are important to me". The Cronbach's alpha for this scale is 0.75.

Tolerance for ambiguity was measured using a four-item scale elaborated by Lorsch and Morse (1974). Illustrative items for this scale are "The most interesting life is to live under rapidly changing conditions" and "Doing the same thing in the same places for a long period of time makes for a happy life" The Cronbach's alpha for this scale is 0.74. The rather low values for the Cronbach's alphas are most probably due to the small sample size and the small number of items in each scale. However, all scales are widely used in organizational settings and they received considerable support concerning the validity and reliability (see for details Cacioppo et al.,

1996; Oreg, 2003; Scherbaum et al., 2006). All the answers are recorded on a 5 points Likert scale (1 - strongly disagree to 5 - strongly agree)

2.3.3. The Mediator Variable

Cognitive complexity is evaluated based on the data collected with a semi-structured interview. Entrepreneurs were interviewed about a specific strategic decision-making process they went through in the past three years. The central question in the interview is: *Can you describe the most important decision you made in the last three years, with the most significant consequences for your firm?* Several additional questions (*What were the factors that led you to make this decision? How was your decision put into practice? When did you actually make the decision? How do you look back at the decision you made?*) were used to get a more comprehensive view on the strategic decision. The benefit of these additional questions was that respondents could come up with details concerning the causes, the factors determining the decision, the very decision-making process and the way it was implemented, the main risk factors and other obstacles that influenced the decision-making, as well as details concerning the outcomes of the decision.

When the respondents were less forthcoming during the interview, two sets of prompts were used: 1) neutral conversational prompts and 2) specific prompts based on the regular pattern of organizational environment analysis (e.g., items referring to: suppliers, competition, clients and the government's role). Only the answers directly related to the strategic decision were transcribed and kept for further analysis. Respondents were allowed sufficient time to answer, controlling for the interviewing skills by using just one interviewer. The verbatim transcripts of the interviews were used for further analyses.

A cognitive mapping content analysis procedure described by Fuglseth & Gronhaug (2002) and Curşeu (2008) was used to code the interviews.

The first step is concerned with *surfacing first order concepts and links* (Calori, Johnson & Sarnin, 1994). The transcripts of the interviews were analyzed and the most important concepts used to describe the decision-making situation and the decision-making process were elicited. Thus, the cognitive maps included only the core concepts that are fundamental for the respondents' reasoning concerning the decisional situation (Eden & Ackerman, 1992; Fiol & Huff, 1992).

The second step is concerned with *weighing concepts,* or assessing the importance of each concept for each entrepreneur according to its explicit mentioning during the interview, spontaneity, priority in the interview as well as the relative length of the discussion (Calori et al., 1994). Most of the first order concepts were categorized in one of the following categories: the organization, decision processes and procedures, causes for the decision as well as obstacles and consequences.

In an attempt to classify categories at a more abstract level the third step concerned *identifying second order concepts and links.* Eight second order concepts have been identified: internal causes, external causes, risks, decisional alternatives, problems, consequences, organizational structure, decision-making process as well as seven types of connections: causal, association, equivalence, topological, structural, chronological and hierarchical relations (see for a more detailed description Gomez, Moreno, Pazos & Sierra-Alonso, 2000 and Curşeu, 2008). These second order categories have the function to organize and provide a structure to the graphic representation of the cognitive maps in the next step of the content analysis.

The output of the final step of the analysis is the cognitive map. Each cognitive map is graphically construed by including the output of the first step – first order concepts and links – and organizing them according to the specific structure provided by the output of the third step – the second order concepts and connections. Entrepreneurs were presented with the final maps and they were asked to analyze the extent to which they represent the strategic decision presented in the interview. No adjustments were needed after this stage.

The complexity of the cognitive maps was computed using a procedure described in Curşeu (2008) (see also Curşeu, Schruijer and Boroş, 2007). Three indicators were used: *cognitive map connectivity (CMC=number of connections among the concepts of the map), cognitive map diversity (CMD=types of connections among the concepts of the map), cognitive map comprehensiveness (NoC=number of concepts in the map).* The formula for computing the absolute cognitive complexity is: RCC= CMCxCMDxNoC. Absolute map complexity reflects the richness of the cognitive representation about the decision situation. A high score shows that the decision maker uses a high number of concepts richly interconnected in several ways to describe the decision situation. The formula is therefore illustrative for the integrative cognitive complexity, which describes the degree of differentiation and integration in a cognitive structure (cognitive map), or in other words it reflects the number of parts a knowledge structure is composed of and the extent and rules for integrating those parts (Calori et al., 1994; Curşeu, 2008; Curşeu et al., 2007; Raphael, 1982).

2.3.4. Dependent Variable

Decision effectiveness was evaluated using five items, three of them refer to the perceived satisfaction regarding the decision's outcomes (e.g., "To what extent are you satisfied with the outcomes of your decision?") and the other two concern the perception of a couple of

objective parameters such as the firm's income or profit (e.g., "To what extent did the decision lead to the increase in profit?"). The answers were recorded on a 10-point Likert scale – an evaluation system similar to the one used in the formal education systems. The Cronbach's alpha for the scale is 0.90.

2.4. RESULTS

We tested the theoretical model using the AMOS structural equation modeling software version 16. We tested the path model presented in Figure 1 using the maximum likelihood procedure. Because the absolute cognitive complexity is likely to be influenced by the length of the interview transcript we have controlled for the number of words in the transcript. As reported by Cacioppo et al. (1996) need for cognition is positively related to the number and richness of arguments used in discourse; need for cognition and the number of words in the interview transcript were allowed to covariate in the model. Based on previous results reported in the literature concerning the interrelatedness of the three motivation traits (Cacioppo et al., 1996; Peklaj et al., 2006; Sarmány-Schuller, 1999; Scherbaum et al., 2006; Sollár, 2008), they were also allowed to covariate in the model. The descriptive statistics and correlations for all variables are presented in Table I. The path model results are presented in Figure 2.

TABLE I

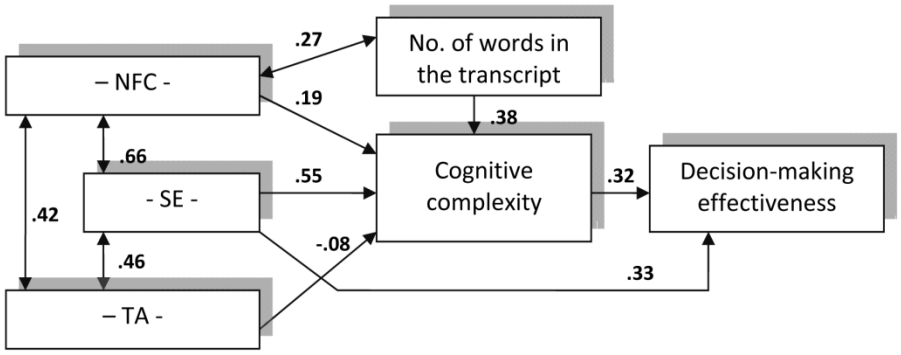
Means, Standard Deviations and Correlations

	Mean	SD	1	2	3	4	5	6	7
1. Gender	1.50	.50	1						
2. Age	36.79	10.08	-.16	1					
3. No of words in the transcript	1412.54	913.44	-.11	-.17	1				
4. ACC	7785.01	5383.16	-.23	-.18	.49**	1			
5. NFC	25.54	3.72	-.18	-.31*	.35**	.64**	1		
6. SE	27.37	3.80	.01	-.31*	.13	.67**	.68**	1	
7.TA	12.52	1.51	-.20	-.24	.08	.28*	.43**	.45**	1
8. DM effectiveness	36.22	8.53	-.11	-.24	.23	.54**	.49**	.54**	.15

*Legend: gender is coded as a dummy variable with 0=woman, 1=man; ACC – absolute cognitive complexity; NFC – need for cognition; SE – self-efficacy; TA – tolerance for ambiguity; DM – decision-making; * p<.05; p<.01.*

FIGURE 2

Results of the Path Analysis for the Overall Conceptual Model



Legend: NFC – need for cognition, SE – self-efficacy, TA – tolerance for ambiguity; the fit indices for the path model are: χ^2=3.28, df=5, p<.65, NFI=.97, TLI=1.00, CFI=1.00, RMSEA=.001.

Two categories of fit indices were used in our analysis: absolute fit indices, which illustrate the general fit between the theoretical model and the data, and incremental fit indices, which compare the tested model with the null model. The null model assumes that the

variables in the model are mutually independent and produces no covariance among all manifest variables (Widman & Thomson, 2003).

The fit indices for the model are, χ^2=3.28 (p<.65), df=5, NFI=.97, CFI=1.00, and TLI=1.00. The overall chi-square shows that the model is not significantly different from the data and according to the NFI value it cannot be significantly improved. We can therefore conclude that for the general model, the variances and covariances implied in the theoretical model match the observed variances and covariances in the data. The RMSEA index is 0.001, lower than 0.1, value recommended for an acceptable model. The TLI index is 1.00, which means that the tested model falls 100% of the way in mean-square metric units in between the null model (TLI=0) and an ideal model (TLI=1) (see for details Widman & Thomson, 2003). The CFI index is 1.00, showing that the theoretical model falls 100% of the way in sum-of-square metric units along the continuum from the estimated non-centrality of the null model to the centrality associated with the ideal model (see for details Widman & Thomson, 2003). In addition to the absolute fit indices, the incremental fit indices support the validity of the overall path model.

Hypothesis 1 stating that cognitive complexity is beneficial for the effectiveness of strategic decision-making process was fully supported by the data. The path coefficient depicted in Figure 2 is positive and significant (.32). This means that entrepreneurs that have a more complex representation about the decisional situation evaluate the outcomes of the decision in a more positive way.

Hypothesis 2 states that cognitive complexity mediates the impact of need for cognition on decision effectiveness and is fully supported by the data. As hypothesized in Hypothesis 2 the impact of need for cognition on decisional effectiveness is not a direct one, but it is mediated by cognitive complexity. The positive and significant path coefficient (.19) shows that entrepreneurs high in need for cognition develop a more complex representation about the

decisional situation, which in turn leads to higher decision effectiveness.

Hypothesis 3 states that cognitive complexity partially mediates the impact of self-efficacy on decision effectiveness and is supported by the data. Self-efficacy has a positive strong impact on decision effectiveness (.33) as well as an indirect effect mediated by cognitive complexity.

Hypothesis 4 states that the negative impact of tolerance for ambiguity on decision effectiveness is mediated by cognitive complexity and is not supported by the data. The results of the path analysis depicted in Figure 2 show that the standardized path coefficient between tolerance for ambiguity and cognitive complexity is negative as hypothesized, yet not significant.

2.5. DISCUSSION

Overall, the model developed and tested in this research received partial support. In general the results of this study indicate that (1) motivational traits of the decision-maker do influence the way they represent the strategic decision-making process, (2) entrepreneurial cognition, in particular the complexity of the representation related to the decision, has a significant impact on the way entrepreneurs evaluate the effectiveness of the decisional outcomes and (3) cognitive complexity acts as a mediator between motivational traits and decision-making effectiveness.

Our results show that cognitive complexity is beneficial for the effectiveness of strategic decision-making processes. In the Romanian context of SMEs, described by the ambiguity and velocity pertaining to economic, political and social factors, entrepreneurs with high levels of cognitive complexity will perform better in decisional tasks with a medium or high level of difficulty. These findings support the prior lines of research stating that CC is positively correlated to effective outcomes of decision-making due to

the fact that it enables the decision-maker to take into consideration multiple alternatives and perspectives of a strategic problem (Ceci & Liker, 1986). In other words, entrepreneurs with high CC process a larger amount of information (Blaylock & Rees, 1984), transmit more information (Tripodi & Bieri, 1964), they better differentiate and integrate the information (Goodman, 1968) and as a consequence process the available information in the decision situation more effectively. Consequently, the outputs of these information-processing characteristics are highly elaborated representations capturing a higher number of relationships and concepts concerning the decisional situation and process, which lead to more efficient decisional outputs.

The hypothesized positive impact of NFC on CC is fully supported by the data. Entrepreneurs with high levels of NFC will show a preference for an active information search, as well as for a more thorough, elaborated and accurate cognitive processing (Cacciopo & Petty, 1982). They are also more likely to be rational in decision-making tasks and spend more time in order to analyze the information at hand (Curșeu, 2006). These cognitive properties will ensure entrepreneurs with proper tools in order to deal with the complexity of the organizational environment they are facing. Thus, entrepreneurs with high NFC are more thorough in elaborating conceptually rich representations of the organizational environment. This undoubtedly contributes to a more thorough evaluation of the alternatives of a decision-making situation as well as to making a more effective choice (Bailey, 1977). In other words, entrepreneurial cognitive complexity fully mediates the relationship between need for cognition and the efficiency of the decision-making process.

Also, entrepreneurs who are highly confident in their own capacity to dispose of their cognitive and motivational resources, associated with high levels of concentration and a more effective management of their cognitive resources (Bandura, 1977), will also

elaborate more complex representations of the decisional situation. They will easily integrate multiple, complementary perspectives in order to develop an adequate, if not optimal, understanding of the organizational reality, addressing the impact of the core factors that influence its functioning. However, SE also has a significant direct impact on decisional effectiveness. The direct impact of entrepreneurial self-efficacy on decisional effectiveness can be explained by motivational factors such as a commitment to dealing with complex tasks and a small probability of showing avoiding behaviors (Gist & Mitchell, 1992). Alternatively, it is possible that entrepreneurs with low self-efficacy register less positive decisional outcomes due to the sense of being overwhelmed by the magnitude of the task they need to solve which leads to feelings of doubt and hesitation that ultimately slows the decisional process (Janis & Mann, 1977).

Also, Scherer, Maddux, Vlercandante, Prentice-Dunn, Jacobs & Rogers (1982) provide an alternative explanation of the way the decisional effectiveness is influenced by self-efficacy through motivational mechanisms. First, entrepreneurs with low self-efficacy will perceive fewer opportunities in the organizational environment, but more costs and risks with direct influence on the decisional outcomes. Second, even if the perception of the potential risks pertaining to the organizational setting was identical for an entrepreneur low versus high in self-efficacy, the former would perceive himself/herself as being less competent in dealing with the problems. Therefore cognitive factors explain only partially the impact of SE on decisional effectiveness.

Our findings indicate only a small negative impact of TA on CC. Several explanations have been put forward. One explanation is that SME owners that tolerate ambiguity well, even if they show a significant openness toward an unrestricted information-processing, do not really try to extensively understand all aspects involved in a

decisional situation, therefore they will develop slightly less complex representations. A second explanation addresses the role of social, political and economical factors, such as those pertaining to institutional forces, resource availability, law ambiguities, EU integration or governance, which may have combined to overshadow the real effects of TA on the complexity of the decisional task representation. We also need to take into consideration the diversity of industries and organizational settings firms and entrepreneurs come from, such as: commerce, architecture, tourism, internet services, health, services of consultancy etc. as well as the diversity of the decisional tasks: suspending the activity, changing marketing strategy, changing the object of the activity etc. This could be a confounded variable.

2.6. IMPLICATIONS AND FUTURE RESEARCH DIRECTIONS

Our findings have both theoretical and practical implications. The first theoretical implication and the most important contribution of this chapter is the empirical test of the proposition that cognitive complexity mediates the impact of several motivational attributes on strategic decision effectiveness. This proposition certainly covers the cognitive mechanisms through which motivational attributes influence the outcomes of ESDM. However, the impact of motivation on decision outcomes may be related to emotions too (Curşeu, Vermeulen & Bakker, 2008). The role of affective factors in the way entrepreneurs deal with lack of structure and uncertainty (see for more details Baron, 2008; Seo and Barret, 2007) should also be explored in further empirical studies. Therefore, next to the cognitive component of motivation, another relevant issue to be further explored is the interaction between affective and cognitive factors in ESDM.

Second, this study adds to the literature on entrepreneurial cognition. Previous studies (e.g., Baron & Ward, 2004) argued that

the exploration of cognitive representation is essential for understanding the entrepreneurial decision-making. To date the literature focused on testing the use of cognitive heuristics and biases by entrepreneurs and little to no attention was shown to explore the structure of knowledge representations. This study provides strong empirical evidence that the complexity of the cognitive representations developed in relation to a decision situation is beneficial for decision effectiveness. The study also opens new research directions in that other characteristics of cognitive representations may as well impact on decision outcomes.

Third, the chapter uses a cognitive mapping technique to elicit and represent cognitive representations. This simple and parsimonious method allows researchers access into the "inaccessible" world of human information processing (Curşeu, 2008). Although this technique is extensively used in several research traditions (Clark & Mackaness, 2001; Fiol & Huff, 1991), research should further explore its validity in eliciting and representing individual cognition.

The most important practical implication of this study is the finding that cognitive complexity is beneficial for the outcomes of strategic decisions. Decision makers that achieve a complex understanding (as reflected by the complexity of their cognitive representations) of the decision situation, collect the highest benefits. This is an important insight for any decision maker that is confronted with strategic issues. A high complexity in the decision situation requires a high cognitive complexity and thus the ultimate aim of a decision maker is to develop a complex understanding of the situation at hand. Therefore, our findings emphasize the need for information search and information integration in successful decision-making.

2.7. CONCLUSIONS

The purpose of this research was to explore the role of cognition on the effectiveness of the strategic decision-making process in the Romanian context of small and medium enterprises. Thus, we introduced and tested a model that addresses the mediating role of cognitive complexity in the relationship between motivational traits, such as need for cognition, self-efficacy and tolerance for ambiguity, and decision-making effectiveness.

An interesting pattern of results has emerged. The model per se received only partial support, but this needs to be interpreted with caution due to the small sample size. Alternatively, research data supports the fact that two of the three motivational characteristics examined here play an important role, in the way owners of SMEs elaborate their representations of the strategic decision-making process. Thus, need for cognition is positively related to the entrepreneurs' cognitive complexity. Moreover, cognitive complexity fully mediates the relationship between need for cognition and the effectiveness of the decision-making, meaning that entrepreneurs with high need for cognition will elaborate more complex representations of the decisional situation and ultimately they will obtain more positive decisional outcomes.

On another level, cognitive complexity only partially mediates the relationship between entrepreneurial self-efficacy and the effectiveness of the decision-making. This may be due to the importance of the direct effects that self-efficacy has on the effectiveness of the decisional outcomes, by means of motivational factors such as commitment to complex tasks and few avoiding behaviors.

The current findings did not fully support a negative impact of TA on cognitive complexity. Socio-economic and political factors may have combined to overshadow the effects of TA on the complexity of the decisional task representation.

Although the results reported here show support for most of the hypothesized relations, they need to be interpreted with caution due to the small sample size, as well as due to the fact that we used qualitative data for eliciting entrepreneurial cognition. Nonetheless, what we managed to do is to launch a starting point regarding the importance of cognitive complexity in mediating the relationship among dispositional variables and the effectiveness of strategic decision-making in Romanian SMEs, as well as to stress the performance implications of entrepreneurial cognition involved in decision-making processes. Moreover, these results may provide practical implications concerning human resource selection and evaluation instruments or the need for training programs.

CHAPTER 3

COGNITIVE REPRESENTATIONS OF INSTITUTIONAL CHANGE: SIMILARITIES AND DISSIMILARITIES IN THE COGNITIVE SCHEMA OF ENTREPRENEURS[1]

Abstract

In this chapter we examine the cognitive factors explaining how exogenous institutional change impacts on organizational actions. We have interviewed 121 Romanian entrepreneurs, sixty nine before and fifty two after Romania's ascension to the EU and used cognitive mapping to elicit their cognitive schemas about this macro-institutional change. Similarities and differences between cognitive structures are explored and the aggregated cognitive maps before and after the institutional change are created in order to understand how entrepreneurial cognition changed following institutional change. Our results show that the richness of the cognitive schemas before the IC is lower than after the IC took place. Furthermore the entrepreneurs who framed the IC as a threat adopted isomorphic actions and reported less positive organizational outcomes as compared to the entrepreneurs that represented the IC as an opportunity. Our research is exploratory in nature and opens new interesting research directions in the cognitive pillar of institutional theory. Moreover, we use a cognitive mapping technique to elicit and

[1] This chapter is based on: IEDERAN (FODOR) O.C, CURŞEU, P. L., VERMEULEN P.A. M., GEURTS, J. L. A. (2011). "*Cognitive representations of institutional change: Similarities and dissimilarities in the cognitive schema of entrepreneurs*", **Journal of Organizational Change Management**, 24, 1, 9 – 28.

represent entrepreneurial cognition and in this way we add to the methods used in institutional research. Our results help policy makers to understand that the impact of exogenous institutional change on organizational actions is not direct, but mediated by the cognitive representations developed by strategic decision makers. The study integrates institutional theory with the work on cognition and explores how cognitive representations affect the relation between environmental pressures and organizational responses.

3.1. INTRODUCTION

Institutional theory has traditionally tried to explain the diffusion of new structures and practices (Meyer and Rowan, 1977; Zucker, 1977; DiMaggio and Powell, 1983). Whereas these have been valuable contributions, especially for understanding the isomorphism in organizational practices and actions, little attention has been paid to a more careful examination of what happens with the organizational actors, especially decision makers, during exogenous institutional change (Chreim, 2006; George, Chattopadhyay, Sitkin and Barden, 2006; He & Baruch, 2009). The current study, addresses this particular research gap by exploring the way in which a situation of exogenous institutional change at the macro level influences the cognitive representations of entrepreneurs in small and medium sized enterprises (SMEs). We draw on recent work on entrepreneurial cognition to explain how cognitive representations following change trigger different responses depending on whether institutional pressures are perceived as threats or opportunities (cf. George et al., 2006).

In SMEs, entrepreneurial cognition plays an important role in strategic decision-making because often a single actor (the entrepreneur) makes the choice and only few small companies apply decision-support-systems and routines, mostly used in large

companies to support the decision (Iederan, Curşeu & Vermeulen, 2009). Entrepreneurial cognition filters the institutional changes and organizational actions occur as a consequence of such interpretation and representation. By analyzing how institutional changes at the macro level influence and are acted upon through micro level cognitive representations, we aim to contribute to the understanding of the cognitive microfoundations of institutional theory (cf. Chreim, 2006; George et al., 2006; Powell and Colyvas, 2008).

To explore how entrepreneurs interpret and make sense of institutional change, we conducted a qualitative study in an economy in Eastern Europe, Romania. The current study has three main contributions. *First*, we explore how entrepreneurs of small and medium size enterprises cognitively represent the integration of an emerging economy in the EU– as a particular situation of institutional change – and how these representations impact on decision processes and decision outcomes. *Second*, we are interested in similarities and differences in the conceptualization of institutional change by entrepreneurs who made strategic decisions before the integration compared to those who went through a strategic decision process after the integration. The final contribution is the methodological approach we used to explore the content of entrepreneurial cognition. Cognitive mapping is a well suited method of eliciting and representing cognitive structures (Curşeu, Schalk & Schruijer, 2010) and it was used to represent the web of meaning that entrepreneurs elaborate while trying to understand the environment and industry forces (Schwenk, 1988; Fiol and Huff, 1992; Iederan, Curşeu & Vermeulen, 2009). However, cognitive maps of institutional environments and change were not extensively used so far. Therefore, we introduce cognitive mapping to the field of institutional theory and argue that it can be used to gain further insights into the cognitive pillar of institutions (Scott, 2001).

3.2. CONCEPTUAL FRAMEWORK

The role of cognition in institutional theory has received ample attention in the literature. Early works of Zucker (1977, 1987) and DiMaggio and Powell (1983) clearly point at the need for increasing our understanding of the cognitive underpinnings of institutional theory. DiMaggio (1997:266) calls for a further integration of ideas from cognitive psychology since scholars from this field have been able to demonstrate the mediating role of mental schemas in between perception and action (Boland et al., 2001). The most influential cognitive models used to explain organizational decision-making are those stressing the impact of activated cognitive representations on the decisional outcome (Boland et al., 2001; Iederan, Curşeu & Vermeulen, 2009). Through the activated cognitive representations decision-makers reduce the environmental complexity and select stimuli in order to create cognitive representations or mental models of the internal and external organizational environment (e.g. the situation of institutional change) (Iederan, Curşeu & Vermeulen, 2009). In a similar vein, Bacharach et al. (1996) argued that cognitive interpretations are the critical starting point for fundamental transformations in organizations.

Schemas driven processing is therefore a top down information processing and is especially relevant for recurrent decision situations. Often cognitive schemas contain a core structure, which is resistant to change and peripheral elements, which often adapt under environmental changes. In this way the core of the cognitive structure is protected and only the peripheral (more specific) cognitive structures change (Fiske & Taylor, 1991). When decision makers are exposed for the first time to institutional pressures, they will develop new schemas and later act on these representations. Peripheral structures in a cognitive schema are dynamic in nature and they can change when the contextual factors change. That is why it is very likely that as decision makers are directly exposed to the

real nature of salient and normative pressures of the institutional context, the complexity of their representations (schemas) about these pressures will increase. Hence, as a first goal we aim to explore whether the richness of cognitive schemas regarding an institutional change is higher after the institutional change took place.

George et al. (2006) argue that cognitive similarities across actors can explain the isomorphic actions undertaken by organizations within an institutional field. In other words, organizations mimic each other simply because the decision makers develop similar cognitive representations about the institutional pressures. Nevertheless, Zilber (2002, 2008) has argued that decision makers are likely to develop different representations about the same institutional change, when they differ in terms of their capabilities, logics, interests and agendas. This makes it more likely that institutional pressures to change are not uniformly perceived and experienced by every field constituent. The second aim of our study is to explore to what extent, the same institutional change leads to similar versus dissimilar cognitive schemas in decision makers. In the particular case of this study we explore the extent to which the same specific reality of the institutional change triggered by the integration of Romania into the EU leads to similar or dissimilar cognitive structures.

3.3. RESEARCH CONTEXT

Since the collapse of communist regimes many CEE countries (including Romania) have been confronted with radical institutional changes in their attempt to join the EU. In Romania, after 42 years of Communist rule, the end of the regime was marked by the removal of Nicolae Ceauşescu. Shortly after the end of Communism, EU membership became the main goal of Romanian politics (Iacob & Gavrilovici, 2006). This objective fits into the generalized tendency in former communist countries in Central and Eastern Europe to adopt

a market economy and adhere to western managerial practices (Kostera, 1995). Romania signed its Europe Agreement in 1993 and submitted its official application for membership in the EU in 1995. It also submitted the so-called "Snagov Declaration", signed by all major political parties, declaring their full support for EU membership.

Since then, some of the changes that small and medium sized Romanian firms have been confronted with have a significant impact on their daily practices. Examples are the strict European requirements regarding environmental and social protection, the rapid pace of technological change, the globalization of the Romanian market, and fluctuating raw material and energy prices. These changes have all contributed to an increase in the complexity of decisions faced by the entrepreneurs of small or medium sized firms (Constantin, Pop & Stoica-Constantin, 2006; Grigoruta, 2006).

3.3.1. European Union Integration as Institutional Change

Over the past two decades most of the CEE countries went through two major shifts in formal and informal institutions. The first process of institutional change is the abolition of the communist regime and all its major institutions by the beginning of the 1990s, along with the shift towards a free market economy in the following years of the so-called transition (Chiaburu, 2006; Iacob & Gavrilovici, 2006; Magala, 1992). The second process of institutional change was considered to be "the next logical step": most of these countries enrolled in the race for joining the structures of the EU. Along with all the major changes, this measure affected the core dimensions of the functioning of a state: the social, the economical, the political and the military dimension.

The first process of institutional change has been subjected to comparative analyses among the two groups of countries that experienced two different trajectories after the fall of the communist

regime: the Baltic States, Poland, Hungary, the Czech Republic, Slovakia and Croatia, on the one hand, and Russia, Belarus, Romania, Bulgaria, Moldavia, the Ukraine, on the other hand (Zweynert & Goldschmidt, 2006). However, to our knowledge there is no study regarding the second main process of institutional change – the process of integration into the EU and its consequences.

Moreover, even more salient to this particular situation of institutional change – the EU integration – are the particularities that define the emerging economies of the CEE countries. Emerging economies are considered to be fast growing economies (Hoskisson et al., 2000), but they tend to be more volatile than established markets due to the uncertainty within the political scene and domestic currency (Kostera, 1995). However, the accession of the emerging economies in CEE countries to the EU is a long and rigorous process, depending upon each country's speed of accomplishing the EU requirements. As such, the amplitude of the changes that occur in these emerging economies, in general, and in those of the CEE applicant countries, in particular, is striking. It involves both the adherence to their natural growth tendency as a result of the liberalization (Hoskisson et al., 2000; Kostera, 1995), as well as the implementation of economic, political, social and military regulatory changes driven by the alignment to the EU requirements. This change process includes the implementation of a decentralization process, price liberalization, privatization of large state enterprises, reforming of the legislative and judiciary processes, encouragement of both local and foreign private business initiatives, competition and so forth.

Romania is one of the largest countries in the CEE. It evidenced an economic trajectory fitting the pattern of the emerging economies and also went through the previously mentioned processes of institutional change - the abolition of the communist regime and the EU integration process. Unlike other CEE countries, Romania had a

more difficult transition process in many respects. By the late 1980s, due to a strict, rigid economical plan implemented by the central structures for a period of about 40 years, Romania's economy was on the verge of collapse. After 1999 (when the EU ascension process started), Romania initiated an extensive reform plan along with institutional changes according to the European norms and policies. This directly affected the economic players in the market. The goal of this chapter is to discover how organizations deal with such pervasive changes. Our focus will be directed upon SMEs, in particular upon how entrepreneurs make sense of the institutional change and strategize, since SMEs contribute significantly to economic growth and are perceived as the engine of economic growth in Romania.

3.4. METHOD

3.4.1. Sample

One hundred fifty SMEs entrepreneurs from five counties in Romania (Cluj, Maramures, Satu Mare, Bihor, and Bucuresti-Ilfov) were initially contacted by telephone. We asked them abut recent strategic decisions and 121 active decision makers reported making at least one strategic decision in the past three years were included in the operational sample for further analyses. The respondents were active in diverse industries such as retail, construction, architecture, and HR service providers. SMEs are defined here as firms engaged in marked based economic activity, with less than 250 employees, autonomous and with a financial balance less than 43 million Euros (The Romanian Agency for Regional Development). A first subsample of sixty nine respondents (who had indicated to have made at least one strategic decision before the integration of Romania into the EU) was interviewed in 2006. The second subsample of fifty two respondents (that made a strategic decision after January 1st 2007) was interviewed in two moments (May–June 2007, June–August 2008). The strategic decisions our respondents were involved in ranged

from new product development decisions, change of market strategies, to changes of internal processes, liquidation decisions, decisions related to temporary suspension of activities and so on. Background information of our sample is presented in Table 1.

TABLE 1

Background information of respondents

		Before EU	After EU
Gender	Female	19	26
	Male	50	26
Age	22 – 29	6	19
	30 – 39	24	15
	40 – 49	30	14
	50 – 55	9	4
Education level	Professional School	2	1
	High school	16	0
	University	36	29
	Masters	11	17
	Doctorate (PhD)	4	5
Years of experience in a management position	1 – 5	20	37
	6 - 10	21	11
	11 - 15	25	2
	16 - 20	2	2
	21 - 25	1	0
Legal status of the firm	AF	3	1
	SRL	63	45
	SA	3	6

3.4.2. Data Collection Procedures

A semi-structured interview was used to collect data concerning the specific strategic decision-making processes that our respondents went through in the past three years. Taking into consideration the exploratory nature of the present study, the semi-structured interview technique allowed researchers to explore the most salient

concepts used by the respondents to describe the strategic decision as well the links among them.

The interview started with the question: *Can you give a short description of the company you work in?,* aimed at activating the relevant concepts concerning the industry and the organizational environment they work in: organizational culture and structure, managerial responsibilities and market conditions. The following item: *Can you describe the most important decision you made in the last three years, with the most significant consequences for your firm?* represented the main stimulus for activating the entrepreneur's representation of the strategic-decision making process. It also allowed the elicitation of the main concepts and links concerning the decision and its context. The following questions were: *What were the factors that triggered you to make this decision? How was your decision put into practice? When did you actually make the decision? How do you look back at the decision you made?* The benefit of these items was that respondents could come up with details concerning the causes, the factors determining the decision, the decision-making process itself and the way it was implemented, the main risk factors and other obstacles that influenced the decision, as well as details concerning the decision's outcomes.

Regarding the situation of institutional change, no specific question was included to prompt explicit answers. We preferred a more indirect approach to explore the way the integration of Romania into the EU was reflected in the strategic decisions of SMEs. Questions like: *Did the external environment play a role in your decision? Did governmental or legal issues influence the decision making process or its implementation in any way?,* were meant to elicit links between the decision making situation and the recent institutional change, no matter how it was perceived or represented by entrepreneurs.

3.4.3. Data Analysis

All interviews were transcribed verbatim. We used cognitive mapping to code the interviews through the content analysis procedure described by Fuglseth & Gronhaug (2002) and Calori *et al.* (1994). The choice for the map analysis procedure is supported by several arguments: a) map analysis subsumes content analysis, b) map analysis allows the examination of the micro-level differences in individuals' maps and it facilitates the capture of the web of meaning spread across the text, c) it facilitates examining hierarchies of meaning, as it happens when categorizing concepts or types of relationships (Carley, 1993).

The author carried out the coding of the transcripts. I started by thoroughly analyzing the transcripts. Next the cognitive maps were produced in four steps. The first step is concerned with *surfacing first order concepts and links* (Calori et al., 1994). The transcripts of the interviews were analyzed according to five dimensions: organization, decision process, causes, obstacles and consequences. The second step is concerned with *weighting concepts,* or assessing the importance of each concept for each entrepreneur according to its explicit mentioning during the interview, spontaneity, priority in the interview as well as the relative length of the discussion (Calori et al., 1994). Since the purpose of this study is exploratory, we decided to incorporate in the final output all those concepts mentioned during an interview if, and only if, that were relevant to the topic under discussion: the strategic decision making process in relation to the EU integration.

In an attempt to classify the first order concepts and links at a more abstract level, the third step concerned *identifying second order categories*. I have accomplished this step by analyzing the first order concepts extracted from the transcripts according to the five theoretical dimensions defined *ex ante*. In order to better capture

the considerable amount of data concerning each of the strategic decision processes we explored, we created more specific categories of concepts and links. The two main criteria for identifying the second order concepts and links were: 1) at least 80% of the transcripts must have made at least one commentary regarding that specific category and 2) each map included a specific second order category if it comprised at least one first order concept or link extracted out of the interview transcript. Eight second order concepts have been identified: organizational structure, decision-making process, internal causes, external causes, risks, decision alternatives, problems in implementation and the consequences of the decision implementation. The only function of these second order categories is to organize and provide a structure to the graphic representation of the cognitive maps in the next step of the elicitation procedure so as to ensure a unitary base for further analysis and interpretation.

The output of the final step consists in the *cognitive map* itself. Each cognitive map is graphically construed by including the output of the first step – first order concepts and links – and organizing them according to the structure provided by the output of the third step – the second order concepts and links. Internal and external causes were graphically represented in the top left square, the consequences in the top right square, the risks, alternatives and problems occurred in the top central square, the organizational structure elements in the bottom left square and those connected to the decision-making process in the bottom right square. The strategic decision itself was graphically represented in the centre of the cognitive map (see also Figures 1 and 2).

As Fuglseth and Gronhaug (2002) have pointed out, a cognitive map can be analyzed with respect to two parameters: the *web of meaning* (the content) comprised by the particular configuration of concepts and connections – as a subject of qualitative data analysis

and its configuration or its *complexity* – as a subject of quantitative data analysis.

I have mentioned before, the purpose of the current study is to explore the way SMEs entrepreneurs represent the integration of Romania into the EU and the way this representation is reflected in strategic decision making situations. Therefore I focused the analysis on the pattern of concepts and the connections among them, irrespective of type, sign or strength. This reveals the cognitive schema an entrepreneur has of a specific situation (Carley, 1993).

I also analyzed the raw data obtained from the interviews' transcripts to generate aggregated maps. The core concepts were extracted from each transcript. A concept was considered to be relevant if it referred in any way to the strategic decision process, the organization or the context in which the decision took place. Since we had extensive data and we wanted to identify relevant patterns, our next concern was to apply a data aggregation procedure. This involved creating broader categories or themes that would be able to successfully identify similar concepts across different interviews. The main criterion for eliciting the themes assumed that at least three interviews must include at least one concept regarding that specific theme. The common themes included the following aspects of a decision making process: causes, risks, obstacles and consequences. This action allowed the researchers to have a common grid when analyzing and comparing the way one entrepreneur represented the context and handled the strategic decision making process with respect to another entrepreneur's interpretation and action. In other words, we used these diagnostic constructs to further classify the previously identified themes, in order to make comparisons between the two sets of interviews. In order to validate this final step, the interviews were read once again to confirm the distribution of the aggregated themes and the subsequent concepts along the

diagnostic constructs. The output of this step is represented in Figures 1 and 2.

3.5. FINDINGS

The cognitive maps of the two groups of respondents were analyzed based on similarities and differences within as well as between groups. Illustrative quotes for the similarities and differences in the way the institutional change is represented are presented in Tables 2 and 3. The aggregated maps before and after the institutional change are presented in Figures 1 and 2.

3.5.1. Similarities and Differences in Individual Cognitive Maps before the EU Integration

Most of the strategic decisions made by SMEs entrepreneurs before the integration were driven by factors related to the market. Irrespective of new competitors, irrespective of the field of activity or the type of industry of the SMEs included in this study, the entry of new competitors was the main trigger for several types of strategic decisions. A shared motivation of strategic decisions proved to be the desire to increase the firms' total revenue or its profit, mainly because of personal financial needs and only secondary because of an organizational development vision.

Regarding EU ascension, the entrepreneurs show a significant degree of agreement concerning the way the State or the Government is diffusing the EU regulations and norms. The lack of transparency and bureaucracy in fiscal policy are perceived as harmful factors or threats to the optimal implementation of strategic decisions. An interviewee from the hospitality industry mentions:

> "You don't want to know about the Government's role in the decisions we made. The Government doesn't help. There's a lot of nonsense chit-chat on TV, but when there is something important they are just beyond the situation. Like when I

> wanted to apply for a financing and I read about it in the newspaper. And I did everything they requested, I searched for the forms and did the documentation, but I was still missing something, till everything got cancelled."

Interviewees in the retail sector complained about the tough financial regulations:

> "We need to buy special fiscal documents, although we don't need all of them. And after we bought everything they made us to change them all, to buy new cash registers and new fiscal documents, since they approved the monetary law and introduced the RON. They are nothing but unjustified expenses." (Retail)

Finally, interviewees in retail and automotive industry complained about bureaucratic procedures:

> "I pay all my taxes to the state; we are used to this, but the bureaucratic Government is just pulling us back" (Retail)
>
> "The most important obstacles were related to getting approvals and licenses... bureaucracy... approvals from the gas company, from the environment protection and on and on..." (Automotive)

TABLE 2
Similarities and Difference in the Cognitive Maps before the EU integration

Dimension	Similarities in representing the IC situation	Dissimilarities in representing the IC situation
Causes	**Entrance on the market of the external competitors with better products brought along by the upcoming EU integration** "A bigger internet provider was on the point to enter the local market. And apart for the cheaper internet services, they also prepared a more complex package which included telephone and cable at a very reasonable price. It was therefore essential to do something and remain on the market." (IT) "Western companies bring in new technologies. I went to a medical exhibition and I saw a lot of high quality equipment. I saw them and I wanted them, just like that." (Health)	**The impact of European trends in business** "There were no orders from the external (EU) market and in time, all the other firms in the lohn business started to get on a downward trend. I keep in touch with some of the other entrepreneurs in the business and they are not happy at all with what is going on." (Textile) "I said I should close down the stores and focus on construction since it's a sector in full ascent, while the retail will be taken over by larger supermarkets. It is said that the market of construction materials and services will go through an explosion in the following couple of years after the EU ascension and it already started" (Construction)
Threats/Opportunities	**Foreign competition brought by the EU integration**	**Normative and legislative pressures** "There are many risks... and

	"A lot of foreign competitors will enter the market. And they have years of experience and a lot more capital than we do." (Retail) "I don't know if we have a future once we enter the EU (...). This is the politics. And the big competitors we'll eat us alive, you know the saying. I don't know what will happen to us (...)" (Retail) "After we enter the EU, I don't think we will resist on the market." (Retail) "I don't know what will happen. We, the small firms, will probably disappear" (Retail)	now, if we enter the EU they are going to make some more demands, more rule and requirements (...). We cannot keep up with all this." (Retail) "We have to comply with new safety regulations now and to improve the working conditions for our employees. We have build up a modern, well-equipped locker, with showers and everything... we took care of their (employees') health, because they work in a dusty environment... and we care for them. Mainly, we tried to secure optimal working conditions so they can shower after work and go home clean." (Construction)

Most of the interviews mention the EU ascension as a threat. Decision makers acknowledge the fact that EU ascension by 2007 will somehow affect their economical situation in a negative way and strategic position on the market. Just a few of our respondents view the EU ascension as an opportunity for their business.

A first group of entrepreneurs acknowledge the fact that the EU integration of Romania is an irrefutable reality, but they don't have a clear picture of what the implications are for their firms. They are governed by a general sense of uncertainty and insecurity concerning the future of their organizations. This overall impression has a negative effect on strategic decision processes, since they feel that they cannot accurately estimate the outcomes of their choices. They

don't know what to expect, yet they did not try to find any information upon this subject; they rather sat back and waited for something to happen. This pattern is especially visible in family businesses in retail. For the entrepreneurs operating in these areas the ambiguity and uncertainty associated with the EU ascension are the main threatening factors. Entrepreneurs, from the textile industry, already sensed the downward trend of the lohn business they were working in and they included this trend in the changes announced by the EU integration. Most of the strategic decisions they made concerned the suspension of the firm's activity, starting a bankruptcy procedure, or a fundamental change in their activities. The causes mentioned in these types of decisions are: the general decline of interest in smaller sized buyers; the interest of external buyers for cheaper labor and the state's policy regarding work conditions and payment.

A second group of entrepreneurs, who were active in different industries, were also aware of the perspective of the EU integration of Romania along with the changes it subsumes. Nonetheless, this particular situation of institutional change was represented as an opportunity for the development of their lines of business. Factors related to the EU integration like: the globalization of the market, the penetration of external competitors on the Romanian market, the possibility for the local firms to enter the European market, along with the need to gain a competitive advantage were identified as the main triggers for strategic decisions in the SMEs environment.

Moreover the consequences associated with these types of decisions concerned the increase in the annual revenue of the firm, substantial financial investments in the quality of services and products improvement with an expected return in the years following the integration, increase in profit and increase in the number of clients. Table 2 provides a summary of the similarities and differences, illustrated with interview quotes, in the individual

cognitive maps of the entrepreneurs interviewed before the EU integration.

3.5.2. Similarities and Differences in the Individual Cognitive Maps after the EU Integration

The situation of the EU integration is definitely more prominent in the cognitive maps of entrepreneurs that made strategic decisions post integration. More concepts characterize the situation and there are more connectors that tie the integration to the decision process.

All interviewees mention explicitly the process of integration as a contextual factor and there is a wide consensus on the fact that it brought significant changes in the national socio-economical and political environment, changes that affect in various ways the organizational processes and outputs. The specific and more particular manner in which the situation of institutional change impacts the strategic processes of the SMEs is largely dependent on the industry the firm is active in. It is important to mention though that there is a shared agreement on the immediate changes that the EU integration of Romania brought along. Thus, integration is usually associated with the globalization of the market, and with the penetration of foreign, external competitors in the local market. This triggers the need for creating a competitive advantage in order to survive on the market. Whether this is treated as a cause, an opportunity or a threat to the optimal trajectory of a small or medium enterprise will be discussed further on.

As we have mentioned before, important differences can be identified in the way entrepreneurs made sense of the situation of institutional change related to the strategic decision processes they were faced with after the integration. In the field of human resources consultancy there is a consensus that the EU integration brought significant changes in the market: increased competitiveness due to the penetration of external players on the local market and in the

same time new potential customers. Therefore, the external players are conceptualized in two different ways. Some see them as a main threat due to the fact that they have significant financial power, years of experience and a large discretion in the strategic moves on the market. Others perceive new entrants as an opportunity since they are potential clients as well as excellent providers of successful and inspirational models in the consultancy area. The strategic decisions made by entrepreneurs were concerned with improving or consolidating their strategic positions on the local markets through ISO standardization or involvement in public events in order to gain more visibility among customers and competitors. An illustrative example of opportunity framing and positive decisional outcomes is a respondent from the automotive industry:

"Since they keep talking about the integration and since I've travelled a lot outside Romania, I realized that if we stick to this level, to the way we are doing the work at this point, we won't be able to survive. So I thought about improving the business... you know, just to cover more of the market (…) I'm satisfied with the decision. We're on the right track with recovering our investment (...). We managed to win customers we didn't even know they exist. There's a lot of potential in the area we went in (...) All in all, I think we won."

In commerce, especially in restaurant businesses, the EU integration of Romania is conceptualized as a menace and a future cause of their bankruptcy since the SMEs active in this field are small players that lack the financial power to make adequate investments requested by the adoption of European infrastructure norms, work conditions of employees and new taxes. A respondent from commerce mentions:

"There are a lot of risks... and now, if we enter the EU they are going to make some more demands, more rules and requirements (...). We cannot keep up with all this. We are not allowed to sell fake brands anymore, because they say we make unfair competition to the brands. And you can only sell the brands if you have a license from the mother-company. And that is really expensive. (…) I'm not very happy with the decisions I have made so far. Fewer and fewer people come around here and our sales keep dropping. I'm thinking to close down the store. I don't know what type of business could work here"

A few interview quotes illustrating the similarities and differences in the way entrepreneurs represent the institutional change after it took place are presented in Table 3.

TABLE 3
Similarities and Difference in the Cognitive Maps after the EU integration

Dimension	Similarities in representing the IC situation	Dissimilarities in representing the IC situation
Causes	**Development opportunities brought by the EU integration** "We tried to restructure our business according to the international consultancy models after we found out about Roland Berger and other international players. When we made the decision we took a look both at our internal competitors as well as the foreign, giant competitors. We didn't want to copy them mot-a-mot, though." (Consultancy) "The EU integration was like a catalyst for our business. Entering the EU meant that we had one year to develop a strong brand and take a deep breath of reality and build some kind of advantage. We also want to enter the European market and this will happen in about 2-3 years if everything goes as planned." (Consultancy) **Need for competitive advantage** "When we heard we were granted the EU membership we foresaw that our competition might increase, since the consultancy market is still largely uncovered in Romania. So we thought	**Foreign competitors/customers on the internal market** "Our multinational competitors provide more or less the same services we provide: personnel leasing, HR consultancy... And they are multinationals; obviously they have bigger financial power. When Romania entered the EU, a lot of opportunities arose, especially for those with big financial possibilities. In other words, it brought competition." (Consultancy) "In the field we are working in there are about 5 big competitors. 3 of them are multinationals and came recently on the market." (Consultancy)

	we would need to build in and strengthen some kind of competitive advantage. Knowing the local market is one of them." (Consultancy) "We made European – standard investments in modern equipment and devices." (Automotive) "The pressure to improve is high; we have to be better than the new competition. I got a good idea from the market. We used to visit clients and they kept complaining and asking us if we also provide post-selling service. So I knew there was an unsatisfied need on the market that we could cover." (Services)	"Once we started the contact with the EU, a lot of firms started to get interested in our services. We started to have foreign, multinational customers for our HR services. Also, when they came, they also switched a little the local mentality, more local firms started to be interested in developing their personnel." (Consultancy)
	Normative pressures "There are very strict norms we must respect now. For example, we must provide the employees with certain facilities, with a special locker-room and so on." (HORECA) "Our multinational customers asked for certain quality standards. They asked for ISO or other licenses that would certify us as a trustable HR services provider." (Consultancy) "If we do not follow the rules, we pay. And we pay a lot! The fines are bigger now; you cannot afford to break the law." (HORECA) "We are in the process of obtaining our ISO certification. We are pressed by the European standards. Let's say it's going to be something mode to add ad the company's portfolio." (Services)	"We managed to bring on our side the customers who had asked for quality certification and all sort of licenses from the Work Ministry. Some of them needed it for PHARE or all sorts of funds so I understood them." (Consultancy)
Threats/	**Lack/exodus of the qualified**	**Taxes/new tax**

Opportunities	**workforce**	**regulations**
	"We had few applicants, fewer than I expected and even fewer of those who corresponded to our standards. I think they are closed minded and do not seize such a big opportunity to build a corporate career." (Services) "I think we chose a really bad time for recruiting. It was during the winter exams and probably the students were not that eager to find a job at that point." (Services) "There are few qualified construction workers on the market. Most of them get qualified inhere and then start to leave for Spain or Italy where they are better paid." (Construction)	"Once we entered the EU, we do not have to pay customs taxes for imported cars, second hand cars. We only pay a tax for the first-time registration or something. The point is that we are going to have an invasion of imported cars." (Automotive) "They (EU) increased the taxes, gas cost, food costs, everything because they said they must align our prices to the ones in the EU" (Retail)

3.5.3. Aggregated Cognitive Maps

In order to better summarize and illustrate the differences in entrepreneurial cognition, the individual maps were aggregated in two cognitive maps reflecting common issues before and after the integration in the EU. The two maps are presented in Figures 1 and 2.

Both groups of entrepreneurs (before and after the change) were aware of the fact that the EU integration will or already took place. The institutional change is part of the explicit entrepreneurial cognition in both instances. A very important aspect differentiating the way the EU integration is perceived by the two groups of decision makers is that the group that was interviewed before the integration represented it mainly as a threat and major risk for their strategic choices, while the interviewees of the second group perceive it both as a threat as well as an opportunity. Only a small part of the sample

interviewed before the integration represents this as an opportunity. Furthermore, the institutional change is much more salient after the integration took place. In other words, entrepreneurs that made strategic decisions after the EU integration represented it more vastly, by using more concepts to describe it and more links to connect it to the strategic decision making process than entrepreneurs who made the strategic decisions before the integration. Another important aspect concerns the fact that after the EU integration all respondents referred explicitly to it and had a very clear picture of what the EU integration means to them. Therefore, the representations upon the decisional processes that occurred after the integration contained a much more detailed picture of what the EU integration is, what kind of factors related to it are of main concern for the SMEs economical trajectory or how, when and in which way are they expected to impact the organization.

Although they mentioned the perspective of Romania being granted the European membership, interviewees in the pre-integration group varied dramatically in their representations. Their conceptualizations of the EU integration ranged from threat, potential problem or cause for future problems, to a possible opportunity for development, or just an uncertain future due to the lack of information of what the integration will mean for SMEs.

Another important finding is the fact that the richness of cognitive schemas about the institutional change seems to be positively associated with the decisional outcomes. Entrepreneurs who had a clear and detailed representation of the changes brought by the integration also tended to conceptualize them as an opportunity for the development of their lines of business.

FIGURE 1 – Aggregate map – before IC

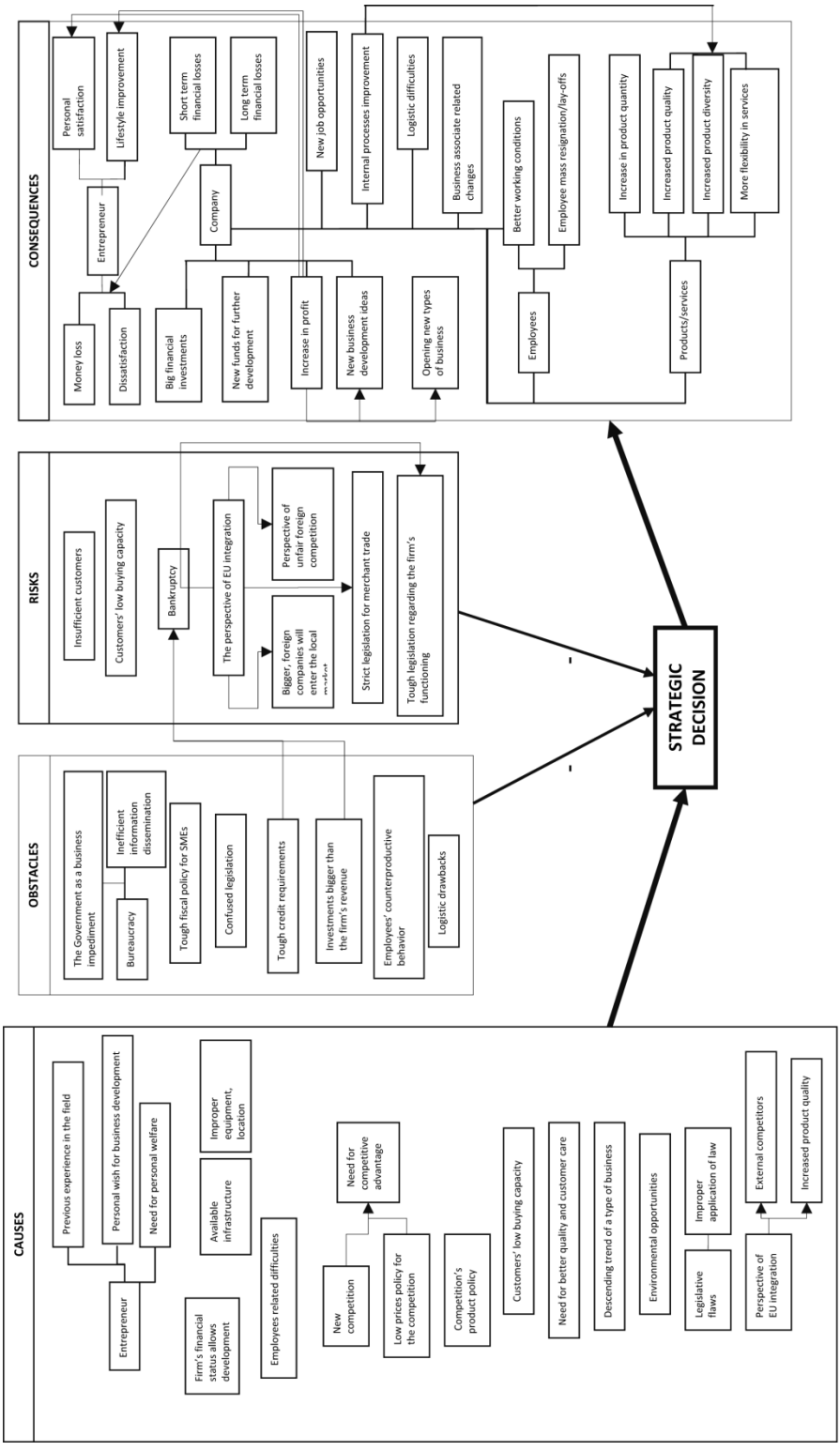
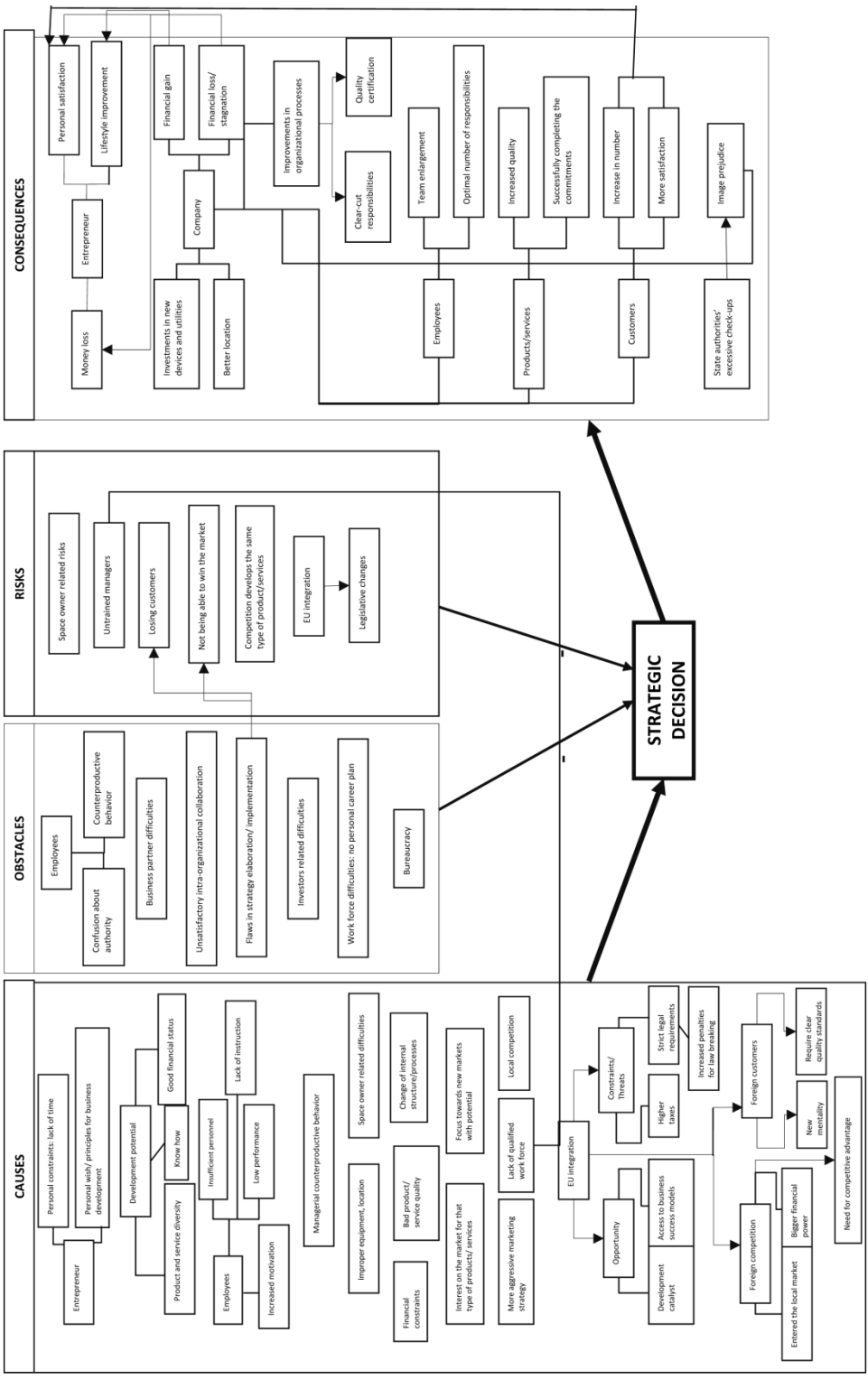


FIGURE 2 – Aggregate cognitive map – after IC



As a consequence of this representation their strategic decisions ranged from: organizing a public event in order to gain more visibility, changing the internal functioning schema according to the international success models – as a starting point for future penetration of the external market, to making significant investments in infrastructure or starting an ISO standardization process in order to increase the quality of the provided products or services. The registered consequences were also more positive in nature: increase in the quality of products or services, satisfaction with the decision, increase in the number of clients, increase in profit, fulfillment of a step in the strategic business plan for the following five years.

Although the integration of Romania in the EU is not reflected entirely in the same manner in all the representations of all SMEs entrepreneurs, the most salient and frequent aspects concerning the changes brought by the integration into the EU and identified both in the cognitive maps are: the market globalization, the access of external economic agents on the internal market, increased competition, better quality – price balance offered by external competitors, ISO - European quality certificate requirements, the decline of the Lohn industries (textile especially), so, the perspective of major layoffs in this industry; the increased probability of bankruptcy in the first years after the integration - according to the international statistics regarding the economical behavior of other new member states of the EU.

Several expected effects of the EU ascension, like the exodus of the qualified workforce, the strict requirements for environmental protection or the state requirements with respect to the increase of salaries of the employees were also mentioned in the representation of the strategic decisional processes after the integration. However, there is no recorded mentioning of the protection measures that the state asserts to have taken in order to ease the process of adherence to the strict European norms of the SMEs. Instead, most of the

respondents conceptualized the state either as ignorant to their problems and difficulties, or as a distress factor impeding the optimal implementation of the strategic processes in SMEs. Or, like several of the entrepreneurs put it “a necessary bad”, “the vigilant institution” and so on.

3.6. DISCUSSION

Our study used a cognitive framework to explore the way in which a macro institutional change impacts on organizational decision-making. We extend the research on institutional change in that we argue that cognition partly explains organizational responses to institutional pressures. We began by noting that organizational actions are not directly influenced by institutional pressures. It is the way these pressures are perceived and represented by decision makers that makes the difference.

We explored the richness (complexity) of the cognitive representation developed by entrepreneurs in relation to a macro institutional change. In a situation of institutional change, decision makers use their pre-existing schemas to make sense of the institutional pressures and ultimately a new schema emerges (cf. Bacharach et al., 1996). This schema guides information processing and ultimately shapes organizational actions. Previous research shows that the complexity of these cognitive structures is influenced by the attributes of the decision makers (Iederan, Curşeu & Vermeulen, 2009). We add to these insights and show that the richness of these new schemas related to the institutional change is influenced by the extent to which the decision makers are exposed to the institutional pressures. Before the EU ascension, the conceptual cluster around the institutional change is rather poor and entrepreneurs mostly viewed the change as a threat and associated it with high ambiguity and uncertainty and only a few conceptualized it as an opportunity. Entrepreneurs know that soon their companies

will be exposed to a series of institutional threats, yet they are not exactly sure what these threats will be. The representation of the institutional change is therefore rather scarce in terms of conceptual relations. In the sample of entrepreneurs interviewed after the EU ascension, the representation of the change is much more complex. Decision makers mention the legislative/normative pressures as well as the market changes and the opportunities associated with the EU ascension.

Another important aim of our study was to explore whether the second proposition advanced by George et al. (2006) would hold. They argued that when decision makers perceive institutional change as a threat they would have a tendency to rely on isomorphic actions. This prediction is supported by our results, at least for some of the industries. In the textile industry, the perceived threat of the EU integration leads to the initiation of bankruptcy procedures and this action seems to be generalized across the industry. Moreover, consultancy companies face the threat of external competition and one of the most common actions undertaken by the decision makers in this field is to copy successful models implemented by western companies. Through these mimetic actions, these companies aspire to gain legitimacy in their field. The results are similar with the ones reported by Newman (2000) showing that East European companies facing high levels of environmental turbulence have a tendency of copying the actions of western companies in an attempt to gain legitimacy and a sense of control over their environment.

Our results also show that when decision makers represent the EU integration as a threat, the reported outcomes of the decision are less satisfying for the decision maker. In line with the threat-rigidity hypothesis we show that under threats, decision makers have a tendency to oversimplify the incoming information (Staw, Sandelands & Dutton, 1981) and reach lower benefits and outcomes (Curşeu & Schruijer, 2008; Jackson & Dutton, 1988). Moreover, based on our

results it can be argued that decisions in which an institutional change is framed as a threat lead to less positive outcomes as compared to the ones in which it is framed as an opportunity.

Concerning the similarities versus dissimilarities in the cognitive schemas associated with the IC, our study shows that the same environmental change can lead both to similar and dissimilar representations. In line with George et al. (2006) we argue that after the institutional change and through interpersonal interactions, schemas can be shared within specific organizational fields. An illustrative example is the textile industry in which the entrepreneurs explicitly mention that by discussing with others in their field they think that the only solution to the downward trend in the lohn industry is closing the business. This action becomes generalized within the textile industry and it is most likely rooted in the shared representation developed through interpersonal interactions. Another illustrative example is the consultancy field. Here actors often copy successful western models in trying to build a competitive advantage to the predicted inflow of competitors. Decision makers, however, also seem to develop dissimilar representations about the same institutional change. An illustrative example is the perception of the new tax regulations. Some decision makers perceive it as a beneficial change (diminish in taxes), while others seem to perceive it as detrimental (introduction/increase of taxes). These differences are probably determined by several field specific factors as well as individual traits and are very likely to generate within field differences in the way companies will behave. Although we cannot argue based on our results what these factors are, our study shows the potential of the cognitive approach to shed light on organizational responses to institutional pressures.

3.7. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Next to the contributions, the present study has several limitations too. First, the link between the framing of the institutional change and the complexity of the cognitive schemas was not explored in this study. A fruitful way to extend the results of our study is to explore the extent to which the complexity of cognitive schemas relates to the framing of an institutional change. We argue therefore for a positive association between the complexity of cognitive schemas and decision effectiveness. So far this association received only limited empirical attention and the link between threat framing and cognitive complexity was not explored in empirical research. Future studies can explore the extent to which the impact of framing as threat on decision outcomes is mediated by the complexity of cognitive schemas.

Second, our study is based on two sets of interviews, approximately one year before and one year after the EU integration. We should note however, that the EU norms and regulations concerning the functioning of SMEs are not to be implemented all at once. Therefore, a longitudinal approach would shed more light on the dynamics of the cognitive schemas related to the institutional change. In the same line of reasoning, our sample of entrepreneurs interviewed after the change was not the same as the one interviewed before the change, therefore the study cannot make claims concerning the real cognitive change induced by an institutional change. We have tried to keep the samples comparable, yet further research should explore the cognitive dynamics related to IC using the same sample.

CHAPTER 4

OPPORTUNITIES AND THREATS IN AN INSTITUTIONAL CHANGE SETTING: THE IMPACT ON STRATEGIC TYPES OF SMES

Abstract

Using data from more than 300 SMEs, we test the joint effect of opportunities and threats on strategic orientations in a situation of macro institutional change. Our findings show that perceived threats moderate the impact of perceived opportunities on SMEs strategic orientation in such a way that perceived threats increase the positive association between perceived opportunities and the prospector strategic orientation, as well as the negative association between the perceived opportunities and defender strategic orientation. Implications of current findings for the institutional theory are also discussed and directions for future research are drawn.

4.1. INTRODUCTION

How institutions change has long been a topic of interest within the institutional framework. However, most of the research has so far focused on explaining the way institutions impact organizational actions. The idea that in face of similar institutional pressures different companies will develop similar routines and structures and respond in an isomorphic manner has already gained significant ground (Meyer & Rowan, 1977; George et al., 2006). Conversely, the way institutions change across time as well as the manner such institutional change influences organizational action and strategy has not yet benefited from a unitary approach (Thelen, 1999; Hall & Taylor, 1996; Powell & DiMaggio, 1991; Ingram & Silverman, 2002).

Moreover, while most of the research on strategy regulation in response to environmental pressures has been conducted in mature, market driven economies, little is known about the impact of institutional pressures upon organizational actions within emerging economies (Chittoor et al., 2008). Compared to the relatively stable economic systems, institutional transition within emerging economies is "qualitatively different" (Newman, 2000: 602). During institutional change the old structures and models for actions, the known sources of legitimacy are challenged (Greenwood & Hinnings, 1993). The change in norms, structures and values is even more pervasive throughout emerging economies defined by a rapid growth along with political and economic uncertainty (Kostera, 1995) and such changes impact more closely the company's strategy (Meyer et al., 2009; Ingram & Silverman, 2002). However, the question remains: how will organizations behave when confronted to such ample institutional change? Will they act in an isomorphic manner and defend the old legitimate ways or will they employ a non-isomorphic strategy that challenges the well-learned routines and develops new ones?

During the past two decades, most of the Central and Eastern European Countries have undergone two major processes of institutional change: the shift towards a free market economy following the abolition of the communist regime and the demarche for the integration into the European Union (EU) (Chiaburu, 2006). The current study brings to analysis the case of Romania – as an emerging economy while facing the second process of institutional change – the integration into the EU structures.

One particular type of organizational actors facing such major institutional transition is the small and medium sized enterprises (SMEs). Comprising around 99% percent of the world-wide economies, SMEs occupy strategic positions and assume a leading role in the economic development of many countries including Romania (Audretsch, Van der Horst, Kwaak & Thurik, 2009; OECD, 2005). However, Romanian SMEs, as well as those from other CEE countries, have been confronted with important challenges brought by the EU integration: increased competition due to market globalization, the corroboration of the Romanian and EU legislation, the foundation of new governmental structures to deal with, the access to EU funds etc. In such a complex and dynamic environment, the strategic orientation is a key factor for the success of the company (Chaffee, 1985; Hambrick, 1983; Snow & Hrebiniak, 1980) and for its very survival on the market (Thomson, 2001). By strategic orientation I mean the company's response to environmental pressures such as competitors, technology, customers, rules and regulations that result out of the strategic choices made by key organizational actors.

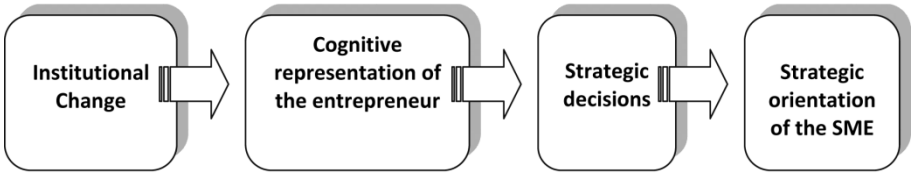
In SMEs the link between cognition and strategy is tight since strategic decisions (SDM) are often made by leading entrepreneurs alone and decision making support systems are underdeveloped and rarely implemented (Miller et al., 1982; Mintzberg & Waters, 1982). As such, an important aspect of entrepreneurial cognition involved in

driving SDM processes is the way in which entrepreneurs perceive and assess environmental changes – as opportunities or threats

While SMEs are the engine of economic growth in most of the word-wide economies and in particular in the emerging ones, institutional research has so far failed to provide a comprehensive explanation for the way key organizational actors are affected by and respond to institutional change (Chreim, 2006; George, Chattopadhyay, Sitkin and Barden, 2006; He & Baruch, 2009). The current study tries to address this particular research gap and argues that entrepreneurs filter and assess the institutional change and respond to such pressures by making strategic decisions that ultimately define the strategic orientation of their companies (Figure 1). By examining the perceptions of institutional ambiguity we seek to provide a theoretical rationale as to why a certain strategy is put into practice by the organizational actors, or why organizations facing similar environmental pressures respond diversely by choosing different strategies.

This research intends to contribute to the existing body of knowledge about SMEs' strategic orientation by studying their reaction to an institutional change. Given the scarcity of studies on this topic, the contribution is threefold: (1) it extends the threat rigidity hypothesis by considering not only the independent effect of perceived threats and opportunities, but also including their interaction; (2) the current study bridges the literature on managerial cognition, institutional change and strategic orientations and (3) uses insights from managerial cognition to further research on the drivers of SMEs' strategic orientations.

FIGURE 1
Overall Conceptual Model



4.2. THEORY AND HYPOTHESES

As previously stated, the current research draws upon institutional theory (Baum & Oliver, 1991; George et al., 2006), managerial cognition (Boland et al., 2001) and strategic orientation research (Miles and Snow, 1978) and argues that institutional change influences organizational actions only by means of entrepreneurial cognition. That is, when confronted with major institutional transition, the entrepreneur of the SME filters and represents the ambiguous environment as containing a various amount of threats and opportunities. In order to face these pressures, the key organizational actors within the SMEs will make strategic decisions in accordance to the elaborated cognitive representations. These strategic choices ultimately shape the SMEs strategic orientation, which in turn influence the organization's fit to the environment (the IC) and performance.

Strategic decisions are often triggered by environmental factors which create uncertainty about current strategic directions (Bourgeois & Eisenhardt, 1988). These decisions involve allocating essential organizational resources in order to attain the organizational goals through appropriate means (Chandler, 1962). Individual cognition plays an important mediating role in the way environmental pressures affect organizational actions such as SDM (Daft & Weick, 1984; Hambrick & Mason, 1984). The organizational

actor interprets and represents the external environment, makes decisions based on these representations which ultimately shape behavior (Boland et al., 2001) and in the end they will impact the very organizational actions. This is clearly the case in the SMEs where the decision making authority is usually concentrated within a single organizational actor: the entrepreneur. Only few SMEs make use of decision-support-systems and formal routines but instead they heavily rely on the decision maker's cognitions (Busenitz & Barney, 1997; Brouthers, Andriessen & Nicolaes, 1998). As such, SMEs are a suitable setting to explore the explicit link between individual cognition (the way entrepreneurs filter and assess environmental pressures) and the SDM process.

When faced with a complex and rapidly changing environment such as in times of institutional change within emerging economies, SME's entrepreneur has to respond to the upcoming opportunities or threats by making strategic decisions. The output of such SDM processes defines the strategic orientation of an organization. This in turn guides its alignment to the environment (Child, 1997; Donaldson, 1995; Miles & Snow, 1978) and is a significant driver of performance in emerging economies (Zhou & Li, 2007). Strategic orientation focuses on the way a company interacts with the environment it is operating in: competitors, customers, technology (Day, 1994; Gatignon & Xuereb, 1997). As such, strategic orientation refers to a stable pattern of strategic actions related to the structure and functioning of a firm (Conant, Mokwa & Varadarajan, 1990) and describes the fit between strategic choices and environment. The better the fit between the characteristics of the environment and the chosen strategy, the better the company's performance since it is more likely to receive financial and political support (Meier et al., 2007).

Miles and Snow (1978) argued that different strategy types can be identified when companies try to align with environmental

constraints and/or opportunities. These types depend on the way firms address three fundamental aspects: *the entrepreneurial problem* – how a company should manage its market share; *the engineering problem* – how a company implements its solution in terms of technologies and processes to the entrepreneurial problem; and *the administrative problem* – how a company structures itself in order to approach and implement the solutions to the previous two problems.

Four enduring patterns of strategic behavior can be identified: defenders, prospectors, analyzers and reactors. *Defenders* are mature companies operating in a mature industry. They seek to protect their position in the economic environment by cost control, efficient production through established and standardized technical processes, continuity of products in "their specialized area" and reliability. They aim to reach efficiency by implementing a centralized structure, formal procedures and long-term planning ensured by the production and financial personnel. Defender strategies are associated with an increased reliance on historical precedents and already tested routines, leaving little room to outcome uncertainty (Rajagopalan, 1996).

In contrast, *prospectors* are companies that seek to exploit the environmental opportunities by developing new products and/or services and approaching new markets. The leading role in implementing this strategy is held by marketing and R&D departments which encourage creativity and innovation over efficiency in order to create and meet new customer demands. Since such an organization is environment oriented by offering a broad spectrum of products, it is organized around diverse departments with few management levels where collaboration is required. Overall, prospectors are associated with fewer well established routines, with multiple options in terms of actions and more outcome uncertainty (Rajagopalan, 1996).

Analyzers are hybrid companies and combine strategy elements from both prospectors and defenders. Similar to the defenders, they prefer to avoid unnecessary risk by concentrating on a limited range of products and technologies and outperform competitors through quality enhancement. However, in line with the prospectors, they are ready to adopt innovations with proven market potential when confronted with more turbulent environments.

Reactors have little control over the environment; they fail to adapt to external competitors and lack effective internal control mechanisms. They have no systematic strategy or structure (Miles & Snow, 1978).

Based on George et al. (2006) we argue that the specific markers of the defender strategy as identified by Miles and Snow (1978) match the isomorphic type of organizational response to the environment. An isomorphic reaction basically aims to preserve the status quo within the company and the economic environment through the adoption of similar structures (Fligstein, 1985), practices (Mezias, 1990; Sitkin & Sutcliffe, 1991) and rhetoric (Elsbach & Sutton, 1992). The departure from well-established structures and practices specific to the prospector strategy is an indicator of an organization's non-isomorphic response to the external environment. Non-isomorphic reactions of the prospector companies involve challenging the 'old ways' specific to similar organizations on the market, while coming up with new structures, procedures and products, thus setting the ground for new legitimate forms (George et al., 2006; Cardinal, Sitkin & Long, 2004).

Since the purpose of this research is to explore whether the organization responds to major institutional transformation in an isomorphic or non-isomorphic manner, we will only focus on the two strategies that offer the clearest implications: the defender and prospector strategies. As previously argued a defender strategy is associated to an isomorphic response to the institutional pressures,

while a prospector strategy is a non-isomorphic type of behavior and as such are of utmost relevance for the current study. On the other hand, analyzers are hybrid companies that combine strategy elements from both prospectors and defenders, thus rendering the isomorphic versus non-isomorphic distinction unclear and becoming peripheral for our purpose. Similarly, reactor companies have no clear strategic focus. And as long as the scope of this research is to investigate whether a company will act in a clearly defined manner: isomorphic versus non-isomorphic according to a specific type of cognitive representation developed by the key decision-maker, reactors would not bring a significant contribution to the research question.

Although using a different taxonomy, the relevance of the defender and prospector strategy within an emerging economy undergoing a process of institutional change is also emphasized by Chittoor et al. (2008) who highlights the following three types of strategic choices for firms in a given industry: 1) exit strategy – closing the business and exiting the market; 2) a defensive strategy – focused on defending the firm's status quo in the same product market (equivalent for the defenders apud Miles & Snow, 1978); and 3) a bold, aggressive strategy – aimed at developing new capabilities and approaching other markets (similar to the prospectors apud Miles & Snow, 1978).

Institutional changes are important environmental events that have a profound impact at multiple levels of an organization's functioning and strategic choices (Wright et al., 2005; Peng, 2003; Scott, 2001). In order to cope with the ambiguity of such an external event and choose an adequate response and organizational strategy, key decision-makers within the SMEs create simplified images of their environment (Boland et al., 2001; Scott, 2001). Such simplified images of a macro-level situation of institutional change will be

translated either as an opportunity framing, or as a threat framing (Dutton & Jackson, 1987; Jackson & Dutton, 1988).

Threats are referred to as 'a negative situation in which loss is likely and over which one has relatively little control', while opportunities stand for 'a positive situation in which gain is likely and over which one has a fair amount of control' (Dutton & Jackson, 1987:80). Although empirical work does not provide support for the dimension positive versus negative situation in distinguishing opportunities from threats, they do provide arguments for the other two dimensions: gain versus loss of resources and increased versus reduced sense of control (Chattopadhyay et al., 2001; Thomas, Clark & Gioia, 1993). Through their sense of urgency and difficulty, both opportunities and threats are salient concepts in SDM and are likely to evoke specific forms of organizational actions (George et al., 2006) corresponding to the adequate strategy type that would allow the company to co-align with the environmental opportunities or constraints (Miles & Snow, 1978). Thus, in line with the strategic choice perspective (Child, 1972; 1997), we argue that the way entrepreneurs of SMEs perceive the environment in terms of opportunities and/or threats plays a role in the strategic orientation of the company.

One important theoretical framework that has dominated the research concerning the way entrepreneurs respond to environmental threats or opportunities is the threat-rigidity hypothesis. According to Zajonc (1966), in face of threat, individuals will emit the most well-learned or dominant response. Similarly, according to the threat-rigidity hypothesis, when confronted with a threatening environment, organizations and individuals will have the tendency to behave rigidly, isomorphic (George et al., 2006), by relying on well-learned routine activities (Staw et al., 1981) so as to regain control over the situation. Whether this response rigidity is beneficial or detrimental for the organization depends on the nature

of threat. When a threat encompasses radical environmental changes, acting rigidly may be dysfunctional since previous cause and effect relationships might have been altered and the old routines become inappropriate under the new conditions (Staw et al., 1981). In this case, a more flexible response might be more adaptive (Campbell, 1965; Weick, 1979). However, when threat is minor and does not involve major change, well learned responses that proved to be successful in the past are more likely to be an adequate measure for the organization to regain control (Staw et al., 1981).

Several cognitive and motivational manifestations are incriminated in this relation: threats induce stress, anxiety and arousal for the decision maker. Moreover, these further lead to: (1) a reduced effectiveness of information processing – restriction is determined by the reliance on prior expectations and internal hypothesis upon the environment (Smock, 1955; Staw et al., 1981), along with the tendency to focus upon central clues and exclude peripheral clues (Eysenck, 1976; Staw et al., 1981); and (2) constriction of control – the tendency of emitting well learned responses and an increase drive to act (Pallack et al., 1975; Staw et al., 1981). While most of these mechanisms received a lot of attention, little is known about the increased drive to act when confronted with a threat.

The threat-rigidity hypothesis does not explicitly anticipate the decision makers' behavior in front of an opportunity. Yet, as George et al. (2006) have pointed out, when confronted with an opportunity individuals and organizations will more likely adopt a risk-taking or non-isomorphic behavior and go beyond their well-established action patterns (Chattopadhyay et al., 2001) since opportunities are associated with a sense of control over the situation. Therefore perceived opportunities are likely to be associated with organizational change (risk taking) and to be negatively associated with organizational/ strategic inertia (risk aversion).

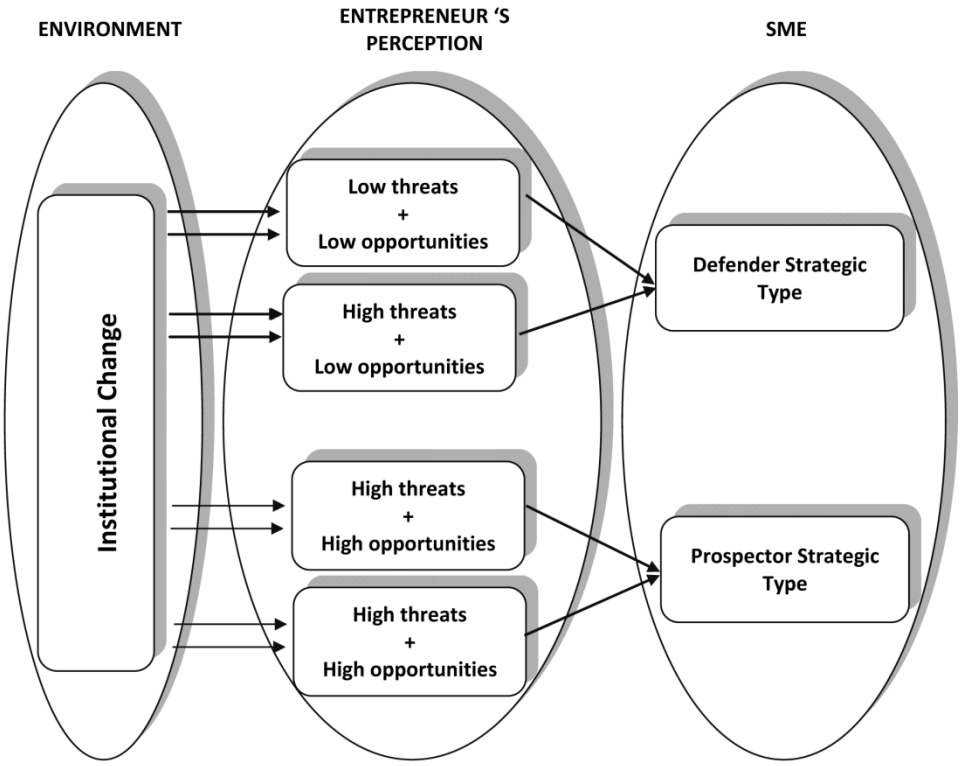
Institutional pressures rarely are positive or negative per se. They are multidimensional since they refer to resources acquisition, stakeholder alignment or legitimacy attainment (Baum & Oliver, 1991) and seldom entail only opportunities or only threats for SMEs. While institutions are usually the "rules of the game" and function as an uncertainty inhibitor for the organizational actors (DiMaggio & Powell, 1983), during times of institutional change, the old structures and rules are challenged and new 'rules of the game' emerge. This particular type of setting is defined by ambiguity, a lower level of predictability and sometimes conflicting norms (cf. Newman, 2000). As such, organizational action is largely dependent upon the way key decision makers within the SMEs perceive and assess the changes in the institutional environment (Townsend & Hart, 2008).

Evidence suggests that under conditions of environmental complexity and ambiguity such as a situation of institutional change, SMEs' decision makers might be confronted with a mixed reading of the environment and an event may simultaneously be categorized as a threat or an opportunity (Caccioppo & Berntson, 1994). Simultaneously invoking two categories to describe an event is more likely when categories are related or overlapping (Ross & Murphy, 1996) as in the case of opportunities and threats (George et al., 2006; Jackson & Dutton, 1988).

As outlined in the research context section, the European Union integration as a particular case of institutional change brings major transformation at several levels of a state's functioning with major implication for the organizational actors. According to the salience and availability of the environmental clues and the processing abilities of the entrepreneur, the institutional change situation might be interpreted as including both threats and opportunities. These intertwined perceptions are further on reflected in the strategic orientation of the SME.

To summarize, we argue that different framings of an institutional change might coexist and trigger different organizational response patterns across SMEs. We further argue that when considering a complex situation such as an institutional change it is essential to explore the interplay between perceived threats and opportunities in being associated to a specific organizational response and strategic orientation. This model is summarized in Figure 2.

FIGURE 2
Research Model



As such, when the IC situation is simultaneously categorized as bringing along both opportunities and threats, I argue that perceived threats increase the positive association between perceived opportunities and the prospector strategic orientation. That is, in a high opportunity environment, the more threats an entrepreneur perceives, the more likely is he to make strategic decisions correspondent to a prospector non-isomorphic strategy in order to meet the environmental demands. This would also be consistent with Campbell (1965) and Weick's (1979) findings at the individual level which support the idea that a flexible and diverse response might have a survival value when an individual is confronted with radical environmental changes, since prior well-learned routines might not be appropriate under new conditions (Staw, Sandelands and Dutton, 1981).

Moreover, when the IC situation is simultaneously categorized as containing both opportunities and threats, I argue that perceived threats increase the negative association between the perceived opportunities and an isomorphic strategy. That is, an entrepreneur is less likely to adopt a defender style in a high opportunity environment and this tendency is emphasized by the increasing perception of threat. On the other hand, a defender, isomorphic type of strategy, will be more suited for a low opportunity environment associated with different levels of perceived threats, since it would help preserve the company's status quo and consolidate its position in the economic environment affected by institutional change. This is in line with the findings at the individual level which state that risk-taking behavior is more beneficial if taking place in a high opportunity environment (Chattopadhyay et al., 2001), while in the absence of opportunities and when confronted with a threatening situation, a rigid but previously successful action of an individual is a functional, adaptive reaction (Staw, Sandelands and Dutton, 1981).

H: Perceived threats moderate the impact of perceived opportunities on SMEs strategic orientation in such a way that perceived threats increase the positive association between perceived opportunities and the prospector strategic orientation, as well as the negative association between the perceived opportunities and defender strategic orientation.

4.3. RESEARCH CONTEXT

Following the fall of the communist regime in the early '90s and the so-called transition, Romania, along with other CEE countries, has embarked in a complex process of institutional upheaval driven by the intention to adhere to the EU structures. In-between December 1999 when Romania officially signed in for the EU ascension and January 1st 2007, an extensive plan of reform had to be initiated with respect to all the major sectors of a state's functioning: social, economical, judiciary, political and military in order to submit to the so-called "Copenhagen criteria" set out in December 1993 by the European Council. The candidate countries must have: 1) stable institutions that guarantee democracy, the rule of law, human rights, respect and protection for minorities; 2) a functioning market economy, as well as the ability to cope with the pressure of competition and the market forces inside the EU; 3) adherence to and the ability to put into practice the EU objectives of economic, political and monetary union.

As such, Romania engaged in an administrative and fiscal decentralization process, prices were freed and started to align to the European standards, currency was revalued and previously state-owned enterprises entered a privatization process. Laws and regulations were revisited and adjusted to EU standards; the judiciary system was subject to major reform.

Once Romania was granted EU membership (2007) change in formal and informal institutions continued. Customs were dissolved and the free circulation of products and labor force within EU borders achieved. Moreover, European companies entered the local market and lead to an increased competition for local companies. Access to EU funding was provided for Romanian companies, as well as the access to success business models and know-how from the "outside" (Iederan, Curșeu, Vermeulen, Geurts, 2011).

These changes were even more pervasive in the case of Romania for it meets the major particularities of an emerging economy (cf. Hoskisson et al., 2000; Kostera, 1995). During the past decade the Romanian economy knew a rapid growth that brutally ceased with the world economic crisis at the end of 2008. However, while in a period of unprecedented economic growth (up to 2008), the economic field was rather volatile due to the instability of the political scene and the domestic currency largely dependent upon both external and internal factors.

In line with what has previously been argued, the ambiguity of the integration in the EU structures as an institutional change resides in the change of the "old rules of the game" by the alignment to the EU standards, along with the measures that brought both constraints (e.g. change in fiscal policy, cf. Iederan, Curșeu, Vermeulen, Geurts, 2011) and opportunities (e.g. access to EU funding, cf. Iederan, Curșeu, Vermeulen, Geurts, 2011).

4.4. METHODS

4.4.1. Sample

The target group for collecting the data comprised entrepreneurs of micro, small and medium sized enterprises located in Romania. The admission criteria for entering the study were that: (1) the company qualifies as a SME according to the European Commission of Industry and Commerce – it is autonomous, has less than 250 employees, a

turnover less than 50 million Euros or a balance sheet total of less or equal to 43 million Euros, (2) the company had economic activity for at least one year before the data collection procedure took place, and (3) the SMEs' entrepreneurs are actively involved in decision making processes regarding the firm's strategy on the market. Moreover, in order to increase the generalizability of our findings, SMEs operating in multiple industries such as commerce, real estate, IT, consultancy, services were included in the study.

The non-probabilistic sampling procedure used in this study was the snowball technique described by Baker (1999). Prior to actually collecting the data, a number of Romanian SMEs in each of the following industries were marked as the ones to begin with: commerce, real estate, IT, consultancy, financial services, HORECA, production, construction, transportation. Each entrepreneur who went through the data collection procedure was asked to recommend other potential respondents from the same industry as well as from other industries, as long as they met the preset study conditions. By explicitly asking the respondents to point out to other respondents with the same characteristics, but different backgrounds, we tried to avoid a too homogenous sample in order to enhance its representativeness and to extend the generalizability of our findings (Baker, 1999)

More than 370 SMEs entrepreneurs were originally contacted by mail or face to face and asked to join the study, while a final sample of 325 Romanian entrepreneurs remained after the last triage according to the preset criteria.

4.4.2. Data Collection Procedure

The data were collected 2 to 2.5 years after the Romania's EU integration (May – July 2009), and each of the participants were asked to fill in a questionnaire which included measures for all the variables in the study, as well as information about demographics.

The questionnaire was organized in three sections. Section one included 6 items measured on a 5-point Likert scale evaluating the way respondents perceived Romania's integration into the EU on the opportunity versus threat dimensions. Illustrative items are: "UE integration has facilitated the entrance on the Romanian market of external competitors, stronger than my company" - operationalization of perceived threat, and "UE integration brought new clients and more efficient business models for my company" - operationalization of perceived opportunity. The Cronbach's alpha for the opportunity scale is .74 and the Cronbach's alpha for the threats scale is .73.

Section two included a measure of the SMEs' strategic type according to the Miles and Snow (1978) taxonomy (prospectors, defenders, analyzers, reactors). The 11 item scale was translated and adapted into Romanian from the original multi-item scale elaborated by Conant *et al*. (1990) which is consistent with the view of strategic type as a multidimensional construct (Snow & Hambrick, 1980). The use of 'self-reports' in order to identify the company's strategy is also acknowledged as an adequate instrument and frequently employed in strategy research (Snow & Hambrick, 1980; Snow & Hrebiniak, 1980). Alpha coefficients for the strategic orientation scales are not computed since the items were dummy coded, but the scales have been previously validated.

The final section of the questionnaire included a brief survey of demographical data including age, gender, education level, experience of the entrepreneur (operationalized as number of years of experience as an entrepreneur), as well as data related to the SME such as activity sector, organization size (operationalized as the number of employees).

4.5. RESULTS

Table 1 presents descriptive statistics and correlations among the variables. The defender style negatively correlates with the other three strategic types and with perceived opportunities. The prospector style is also negatively associated with the remaining three strategic types and positively with education as well as with perceived opportunities. The analyzer strategic type is negatively correlated with the other strategic types and gender (men respondents report it more often than women) and it is positively correlated with organization size. Finally the reactor style is negatively correlated with the other strategic types, organization size, perceived opportunities and positively associated with gender (women respondents report it more often than men).

Further on we performed several hierarchical regression analyses to formally test the moderation hypothesis. In all the regressions, dummy variables for sector, organization size (operationalized as the number of employees), education (operationalized as the highest education level attained by the entrepreneur) and gender were introduced as control variables in the first step. Perceived threats and perceived opportunities associated with the institutional change were entered in the second step and the cross product term between the two was entered in the third step. The results of the regression analyses are presented in Table 2. Variance inflation factors (VIF) for the first two steps of the regression analyses were used to check for multicollinearity, and because all VIF scores are below 2.40 we can conclude that multicollinearity was not a serious problem in the analyses.

The hypothesis assumed that perceived threats moderate the impact of perceived opportunities on SMEs strategic orientation in such a way that perceived threats increase the positive association between perceived opportunities and the prospector strategic orientation, as well as the negative association between the

perceived opportunities and defender strategic orientation. The results of the current research fully support it (see Table 2 – Results of regression analysis and also Figure 3 and Figure 4 for the illustration of the interaction effects between opportunities and threats upon the strategic types).

In order to further explore the interaction effect we have computed an inertia score (by subtracting the prospector score from the defender score), indicative of the extent to which a SME preserves the status quo as opposed to change (see Figure 5).

The cross product terms of perceived opportunities and perceived threats associated with the institutional change is significant for prospector strategic style (β=.50, $p<.05$), defender strategic style (β=-.53, $p<.05$) and inertia (β=-.60, $p<.01$), indicating the importance of the interplay between perceived threats and opportunities in predicting the strategic orientation of the SME.

Although we have controlled for demographic variables including the activity sector and this substantially reduces the plausibility of the explanation, beta coefficients indicate that there might be a sector dependency of some of the strategic types. A defender seems unlikely to occur in the commerce sector (β=-.19, $p<.05$), while the consultancy sector seems to

A defender (β=-.19, $p<.05$) seems unlikely to occur in the commerce sector, while the prospector strategy seems to be more common (β=.17, $p<.05$) and the reactor strategy less common (β=-.16, $p<.05$) for the consultancy sector. Moreover, inertia is less likely to appear in the IT (β=-.14, $p<.10$), commerce (β=-.18, $p<.05$) and consultancy sectors (β=-.13, $p<.05$).

Table 1 – Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Number of employees	33.93	51.73	1									
2. Entrepreneurial experience	8.15	5.17	.05	1								
3. Education	4.97	1.83	.07	-.07	1							
4. Age	39.72	9.64	-.00	.56**	-.27**	1						
5. Gender	1.34	.47	-.06	-.05	-.07	-.00	1					
6. Perceived opportunities	3.43	.83	.11*	-.07	.08	-.04	-.00	1				
7. Perceived threats	3.31	.86	.07	.11*	-.07	.13*	.02	-.19**	1			
8. DEFENDER	2.97	1.94	-.03	.00	-.03	.05	.08	-.15**	-.06	1		
9. PROSPECTOR	2.53	1.74	.10	-.09	.11*	-.09	-.08	.28**	.01	-.48**	1	
10. ANALYZER	3.28	1.80	.13*	.03	.02	.03	-.14*	.09	.02	-.43**	-.17**	1
11. REACTOR	2.20	1.61	-.21**	.06	-.10	-.00	.13*	-.22**	.04	-.19**	-.29**	-.40**

*Note: * p<.05; ** p<.01; N=325.*

Table 2

Results of Regression Analyses for the Interaction between Threats and Opportunities on Strategic Types

		PROSPECTOR			DEFENDER			REACTOR			ANALYZER			INERTIA		
Step		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	SECTdummy1	.11	.10	.12	-.09	-.09	-.11	-.09	-.08	-.08	.07	.07	.07	-.12	-.11	-.14*
	SECTdummy2	.09	.10	.12	-.17*	-.16	-.19**	.00	-.00	.00	.08	.08	.08	-.15	-.16*	-.18**
	SECTdummy7	.02	.03	.04	-.02	-.01	-.02	-.08	-.09	-.09	.07	.07	.07	-.02	-.02	-.03
	SECTdummy8	.09	.08	.09	-.08	-.07	-.09	-.11*	-.10	-.10	.09	.09	.09	-.10	-.09	-.11
	SECTdummy9	.21**	.16**	.17**	-.09	-.05	-.06	-.19**	-.16**	-.16**	.06	.04	.04	-.17**	-.12	-.13*
	SECTdummy11	-.01	.00	.00	.08	.06	.06	-.00	-.01	-.01	-.06	-.05	-.06	.06	.03	.03
	Size (no of empl.)	.09*	.06	.05	-.02	.00	.01	-.20***	-.18***	-.18***	.11**	.09*	.09*	-.06	-.02	-.02
	Education	.08	.08	.07	-.04	-.04	-.03	-.05	-.04	-.04	.01	.01	.00	-.07	-.07	-.06
	Gender	-.06	-.07	-.07	.08	.08	.08	.10**	.10**	.10**	-.11**	-.11**	-.11**	.08	.09*	.09*
2	Perceived OPP		.25***	-.12		-.16***	.22		-.16***	-.20*		.08	.05		-.23***	.20
	Perceived THR		.07	-.33*		-.10**	.31*		.01	-.02		.02	-.00		-.10	.37**
3	OPPxTHR			.50**			-.53**			.05			.03			-.60***
	R^2	.06	.11	.13	.04	.07	.08	.11	.14	.14	.05	.06	.06	.06	.11	.13
	Adjusted R^2	.03	.08	.10	.01	.04	.05	.09	.10	.10	.02	.03	.02	.03	.08	.10
	F change	2.38**	9.89***	4.44**	1.63*	4.83***	4.61**	4.52***	4.57**	.04	2.04**	.99	.02	2.18**	9.31***	6.24***

Notes: *OPP = opportunities; THR = threats; standardized beta coefficients are presented in the table; *p<.10; ** p<.05; *** p<.01; gender is coded as a dummy variable with 0 for man and 1 for woman. Inertia is computed by subtracting the scores for prospector strategic orientation from defender strategic orientation.*

Figure 3 – Interaction Effects between Opportunities and Threats upon the Defender Strategy

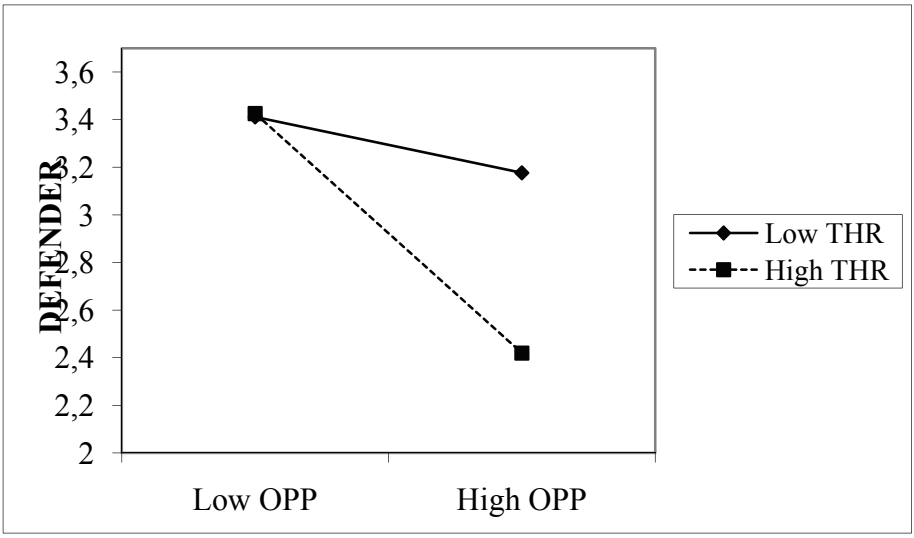


Figure 4 – Interaction Effects between Opportunities and Threats upon the Prospector Strategy

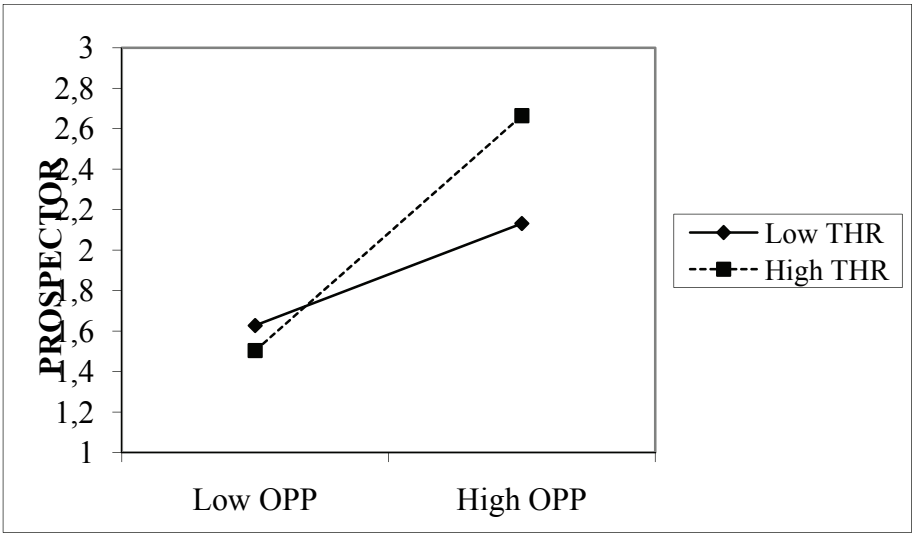
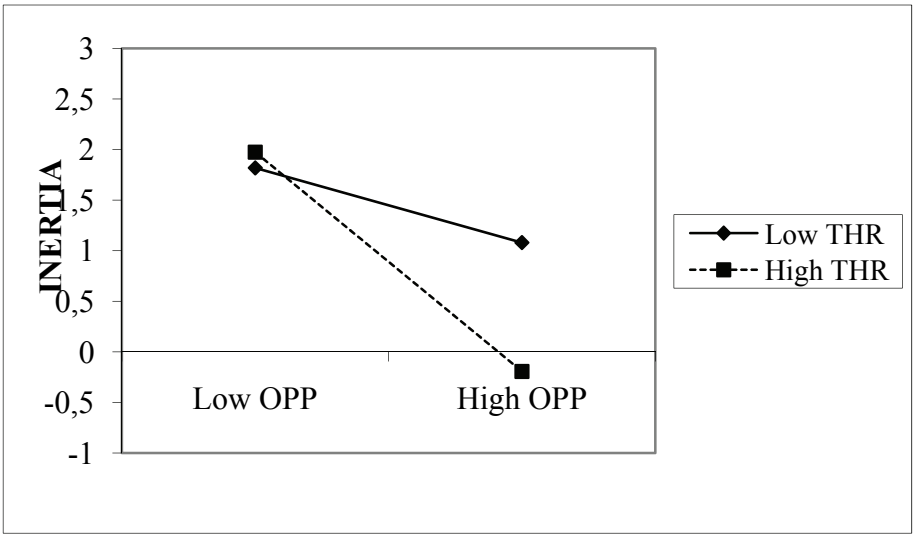


Figure 5 – Illustration of inertia



4.6. DISCUSSION

The aim of this research was to explore what type of organizational response and strategy will emerge as a result of a specific pattern of interpreting the complex environmental features pertaining to a situation of institutional change. Considering the vast areas of organizational functioning afflicted by an institutional change such as Romania's integration into the EU in particular, as well as the multiple outcomes it can generate, we argued that key decision makers within the SMEs might perceive such macro-level environmental changes as bringing along both opportunities and threats for their companies, according to the salience and interplay of environmental clues pertaining to these concepts. These specific representations of the institutional pressure elaborated by the decision makers would in turn influence the way they react to them and make strategic decisions that ultimately define the strategic orientation of their companies.

In line with previous research (Spicer et al., 2000; Cacioppo & Berntson, 1994; Priester & Petty, 1996; Jackson & Dutton, 1988) we highlighted that multiple categorization of the same event can happen and the ambiguous institutional change is interpreted as bringing both opportunities and threats. That is, in order to confront with the ambiguity stemming from the changing norms, values and structures brought by the EU integration, Romanian entrepreneurs of SMEs elaborated cognitive representations of the institutional change according to the information at hand. Some of them perceived the integration as bringing along a significant amount of both opportunities and threats, while others represented less information pertaining to these categories.

Further on, we have pointed out that the entrepreneurs of SMEs who are subject to such a mixed reading of the institutional change are more prone to act in a prospector style when they perceive more opportunities within the economic environment and

this propensity increases with the associated perception of significant levels of threat.

High levels of perceived opportunities and threats are specific markers of dynamic environments such as situations of macro-institutional change that include alteration of previous constraints, laws, government policies and regulations, the emergence of new customer demands and environmental trends. The results of the current study point out that in order to optimally respond to these environmental particularities and achieve performance (Meier et al., 2007) the entrepreneurs of SMEs are more likely to employ a prospector type of strategy. The perceived existence of opportunities will invite entrepreneurs to make strategic decisions that promote new, unprecedented courses of action, since acknowledging and trying to take advantage of them are associated with a sense of control over the situation (George et al., 2006). Moreover, the associated perception of high levels of threat will only make this propensity stronger. High levels of threat are indicative of fundamental shifts in the organizational environment, and, in line with the threat-rigidity hypothesis (Staw et al., 1981), dominant response might not be adaptive under the new circumstances. Thus, entrepreneurs depart from pre-existing routines and instead develop a new and more customized repertoire of actions. Also, the pressure to conform (DiMaggio & Powell, 1983) might be perceived as weaker in times of major institutional change, when old models of action may be seriously challenged.

Unlike other similar companies, prospectors will structure their organization in a flexible, environment oriented manner, where collaboration among departments is required and decisions and actions are decentralized. Prospectors' goal is to stay in close touch to the economic environment, thus they encourage innovation and flexibility within the organization in order for it to be able to grasp

the upcoming environmental opportunities and launch new products and services (Miles & Snow, 1978).

The organizations' non-isomorphic behavior as an effective coping mechanism to a dynamic environment is also supported by research at the individual level. The latter outlines that reacting in a rigid and isomorphic way to major environmental changes encompassing high opportunities and threats by narrowing ones response repertoire is maladaptive (Staw et al., 1981). In these particular circumstances, a flexible and diverse response is a more functional approach and has a survival value (Campbell, 1965; Weick, 1979).

On the other hand, the results of the current study point out that the entrepreneurs who grasp few opportunities associated with the institutional change are more risk-averse and thus less likely to promote non-isomorphic strategies. The lack of opportunities acts as an inhibitor for the promotion of major change in the company routines. As such, the entrepreneurs will try to preserve the status-quo of their SMEs by acting in a defender, isomorphic style. Basically, the environmental clues pertaining to the institutional change which are incorporated by the SMEs' entrepreneurs in a low opportunity framing further act as a clue for the fact that the old legitimate ways are still valid and have not been afflicted by change. As such, entrepreneurs will implement a defender style, promoting mimicry and acting in an isomorphic manner, probably in an attempt to maintain their legitimacy on the market. This means that they are likely to make strategic decisions that promote previously well-learned routines, already proven in terms of efficacy.

This propensity for the defender strategy increases with the associated perception of threats. When the entrepreneurs' reading of the environment is dual in nature, by including also the perception of threats, besides the perception of a low level of opportunities, they might confront with a greater difficulty in processing new and

complex information pertaining to the institutional change. As a result, they will tend to rely even more on past experience and knowledge (Staw et al., 1981; D'Aunno & Sutton, 1992).

The rationale behind such an organizational inertia might be provided by the outputs of individual level research which stress the fact that under conditions of low threat (threat does not involve major environmental change) an individual will be more prone to act rigidly, isomorphic, by making appeal to well-learned routines, and a dominant response proves to be a functional way of approaching minor threatening situations (Staw et al., 1981).

Coming back to the research question: how will organizations behave when confronted to a pervasive, ambiguous institutional change? The answer is that individual cognition of the decision makers within the SMEs acts as a mediator between the institutional pressures, on the one hand, and the strategic orientation of the SME, on the other hand. Moreover, the ambiguity of the institutional change seems to promote a considerable variation in the organizational behavior, in that different types of representations developed by decision makers with respect to the institutional change are associated with particular sets of strategic choices and ultimately with different strategies. SMEs' entrepreneurs who develop a low opportunity framing of the institutional environment are likely to employ a defender strategy and act in an isomorphic manner and this propensity increases with the associated level of perceived threats. On the other hand, a high opportunity representation is associated with a variety of responses that defines the non-isomorphic prospector strategy and this link is further tightened with the increased perception of threats.

The threat-rigidity hypothesis developed by Zajonc (1966) considers the behavior of individuals in face of threat and claims that an isomorphic type of action will occur. The current research emphasizes the need to extend this hypothesis and argues that

complex environmental events might be perceived simultaneously as including threats and opportunities and as such, the predictions for the individual and organizational behavior should be reconsidered in light of the new findings.

4.7. LIMITATIONS

Besides the contribution of this research, inherent limitations advise towards a cautious approach of the results. Although we have tried to ensure a diverse and representative sample through the study admission criteria and Baker's non-probabilistic sampling technique (1999), the sample might still not be illustrative for the whole SME population in Romania.

Further on, the results clearly indicate an association between the type of framing of the environment – as containing high versus low opportunities and threats – and the type of strategy employed – prospector versus defender. Still, the cross-sectional design does not allow for clear causal reasoning. Thus, future research could further investigate the existence of a causal liaison between the entrepreneurs' framing over the environment and the chosen strategy for the SME.

The third limitation could be related to the rather small time scale in relation to the IC. Most studies explore the impact of IC on rather long time span, while for this study, only a few years have passed since the IC. In the light of the hypotheses this is however not a major issue since we are exploring entrepreneurial cognition in a situation of IC.

4.8. CONCLUSIONS

To conclude, the results of our study suggest the importance of understanding the way cognitive representations of complex environmental settings impact the strategic orientations of SMEs operating in various industries. Our findings also go one step further

than current research (Staw et al., 1981; George et al., 2006) and clearly highlight the fact that a complex environment such as a macro-institutional change might be interpreted as dual in nature, bringing along both opportunities and threats. Thus our study departs from the threat-rigidity hypothesis and outlines the importance of also considering the interaction of perceived threats and perceived opportunities in determining a specific course of action at the individual or organizational level.

Moreover, we emphasize that individual cognition and strategic orientation are closely linked in the SME setting. Considering the environmental clues available to the entrepreneurs of SMEs operating in times of institutional change, they seem to interpret the same situation either as bringing both opportunities and threats. Perceived threats moderate the impact of perceived opportunities on SMEs strategic orientation in such a way that perceived threats increase the positive association between perceived opportunities and the prospector strategic orientation, as well as the negative association between the perceived opportunities and defender strategic orientation. Further research could investigate the internal cognitive mechanisms that drive entrepreneurs towards the mixed reading of the environment.

All in all, our study stresses once again the role of the entrepreneurs of SMEs who act as “cognizers” and are responsible for interpreting the complex environment and providing the company with a strategic orientation in accordance to the mental models created for specific institutional change.

CHAPTER 5

CONCLUSIONS

The last section of the current thesis will develop around two core directions. First, a look back to what has been accomplished through the studies described above would ensure an integrative view of the 'elephant' – the strategic decision making within SMEs. Second, by bridging the gap between theory and practice, a look forward towards the way our findings could contribute to enhance the efficacy of the way SMEs entrepreneurs make strategic decisions will also be performed.

At the beginning of the thesis, several research questions were mentioned as guiding the current research. Throughout the chapters of this thesis I have tried to provide relevant answers to the points previously outlined. It is now time to briefly review such answers and discuss their implications and directions for future research.

CHAPTER 1

Cognition, emotion and motivation in SDM – the 'good', the 'bad' and 'the ugly'

The first chapter intended to develop an integrative framework on strategic decision making and explore the way cognitive factors, affective states and dispositional variables related to the individual's motivation interact and influence the decision process and its outputs. A special focus was directed though towards the type of representation elaborated during the process – as a cognitive factor, towards need for cognition, tolerance for ambiguity and self efficacy – as the

motivational factors and towards several discrete emotions such as: sadness, fear, worry, anger, contentment and disgust. While previous research has provided disparate results regarding their impact, I aimed to integrate such empirical findings within a comprehensive model of decision making that builds upon the dual model of information processing. The most relevant insights of this model can be summarized as the answers to the following questions:

- **What is the role of the two modes of information processing: automatic or system 1 and controlled or system 2 when making a decision? How do they impact the decision effectiveness?**

When engaged in running a business such as a SME, the entrepreneur is highly exposed to a dynamic business environment comprising both threats and opportunities for the attainment of the organizational goals. In order to achieve the desired results, the entrepreneur is sometimes faced with making strategic decisions that develop under conditions of major uncertainty. These strategic decisions have high stakes for the future of the company and involve a significant amount of resources.

The entrepreneur selectively perceives information from the environment; he/she processes and finally encodes it as explicit or implicit cognitive representations in the Long Term Memory (LTM). When making a strategic decision, the relevant cognitive representations previously stored in the entrepreneur's LTM as well as the newly perceived information become activated in the Working Memory (WM). While dealing with the information at hand, two information processing modes can be activated: the automatic or the controlled one.

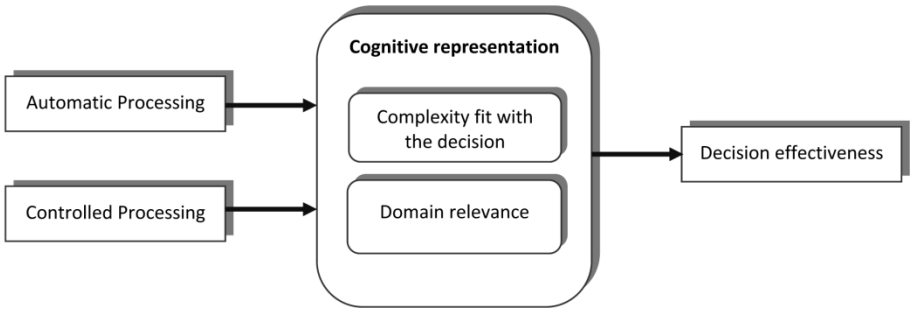
When processing the information through an automatic strategy, the entrepreneur basically relies on the activation of

previously stored general schemas, acquired at an earlier point while exposed to similar decision situations. This processing strategy brings a rapid, intuitive output, yet it can have different effects upon the decision effectiveness. Reaching a decision through an automatic processing style is detrimental when the entrepreneur activates general heuristics or biases that lead to an oversimplified representation of the decision situation. However, when the automatic processing style involves the activation of previously acquired schemas, highly contextual and relevant for the current decision situation, it leads to better results. In other words, the automatic processing is beneficial for the decision outputs when it leads to the activation of domain-relevant, complex schema (e.g. such in the case of experts) and it is detrimental when it leads to the activation of domain-irrelevant, oversimplified heuristics.

The controlled processing mode involves the extensive analysis of the information at hand, thus leading to a more complex representation of the decision situation and a less biased, thus more effective choice. However, when the decision task is simple and routine-like, the activation of the controlled processing mode might lead to the 'paralysis by analysis' symptom and thus be detrimental to the decision.

All in all, it is not the two different strategies per se – the automatic versus the controlled processing mode – that are beneficial or detrimental to the decision. In positing such a relation between the processing type and the decision effectiveness, one should also consider the complexity of the representation developed as a result of processing and the characteristics of the decision situation.

Figure 1



- **How are different cognitive representations such as threats and opportunities related to the prevalence of one processing mode over the other when entrepreneurs tackle decision situations?**

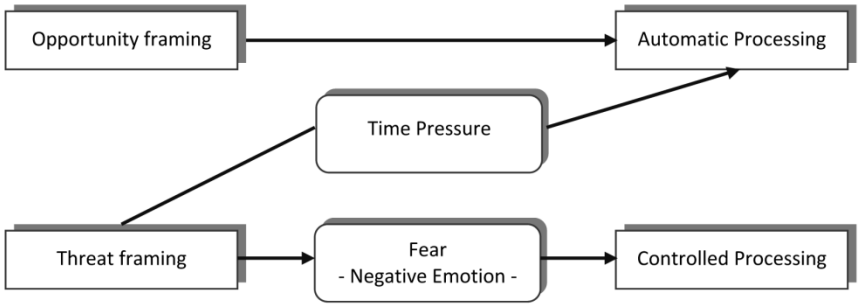
A specific factor posited to having a major contribution for the activation of one processing strategy over the other is the way the entrepreneur perceives the decision situations: as an opportunity or as a threat. The extant data (Dunegan, 1993) point towards a liaison between the opportunity framing of the decision situation, on the one hand, and the activation of the automatic processing mode, on the other hand. This means that when the decision situation is framed as an opportunity the entrepreneur is more likely to engage in a less effortful type of processing, to attend to less information and perform a less profound analysis of the decision related data.

On the other hand, consensus lacks regarding the clear association of the threat framing with a specific processing mode. A stream of research points towards a link with the controlled processing (Dunegan, 1993), while another stream of research points towards a link with the automatic processing (Staw et al., 1981).

One plausible explanation would be that a threat representation triggers system 2 related processes (Dunegan, 1993) and the negative type of affect – such as fear, that has been

systematically linked to such a framing, moderates this relationship. However, when an entrepreneur represents the decision at hand as a threat and this threat is associated with significant time pressure, system 1 related processes would probably be triggered (Staw et al., 1981). Thus, the situation demands (e.g. time pressure) could account for this effect (DeVries, Holland & Witterman, 2008; Shafir & LeBoeuf, 2002). Although threat associated with negative affect would generally be linked to a systematic processing, when time pressure is associated to the decision task, a more rapid processing mode is required in order to generate a timely, adaptive reaction. As such, if the entrepreneur perceives to be under time pressure when dealing with the decision situation, an automatic processing strategy will be triggered. That is, in making the decision the entrepreneur will rely on extant heuristics that require few or no effort and which will further allow him to act quickly, intuitively. Still, although such an explanation seems plausible, further research is needed in order to support such propositions.

Figure 2

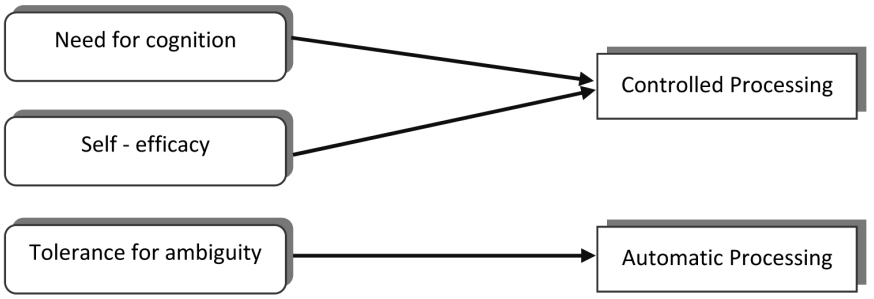


- **How dispositional variables related to the decision maker's motivation influence the activation of a specific information processing type: automatic versus controlled when making a decision?**

Another set of variables assumed to influence the interplay between the automatic versus the controlled processing styles are the motivational ones. Individuals with high levels of need for cognition seem to be more prone to engage in a controlled processing mode when making a decision: they extensively analyze the data at hand and rarely rely on peripheral cues and previously stored general knowledge structures. Similarly, high levels of self-efficacy seem to trigger a controlled style of processing, with decision makers being more focused on the decision situation at hand and showing high involvement in extensive and complex information processing. On the other hand, decision makers with a high tolerance for ambiguity are usually confident in the decisions they make even when the information available is ambiguous or insufficient. As such, it is likely that these individuals would rather process the information in an automatic manner, without an extensive search for additional information to clarify or reduce ambiguity.

While relevant data supported the previously mentioned propositions and the integration of need for cognition, self-efficacy and tolerance for ambiguity within the micro-level decision model developed in the first chapter, it is important to note that some of these propositions were tested in a study reported in the second chapter of this volume and the results will be reviewed at a later point.

Figure 3



- **How do emotions influence the strategic decision making process in terms of the underlying processing mechanisms? Is the prevalence of emotion over cognition beneficial or detrimental when making decisions? What are the 'good', the 'bad', and the 'ugly' emotions when making a decision?**

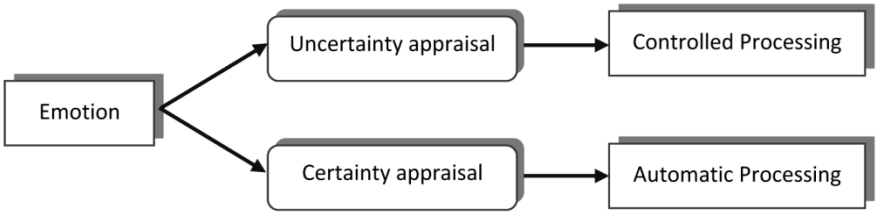
While initial research completely discarded the influence of emotions upon cognitive processes, more recent decision making models were concerned with integrating affect since this was proven to increase the explanatory power of decision models (Dagleish, 2004). Further on, a lot has been debated regarding the positive or negative influence that emotions have upon the decision making effectiveness. The original view promoted emotions as a hallmark for a defective decision making process governed by irrationalities and biases, that would detour the decision maker from an optimal outcome (Elster, 1999). However, another stream of research pointed out the central role that emotions have in making viable decisions (Damasio, 1994; Isen, 1993).

While such findings seem difficult to reconcile, we argued within the first chapter that the benign or malign impact of emotions upon the decision making process can be traced back to the liaison among different types of emotions, on the one hand and the underlying information processing strategies: the automatic versus the controlled processing mode, on the other hand. When making a decision, emotions are 'good', 'bad' or 'ugly' by considering the type of processing they favor: the automatic versus the controlled one and their specific outputs.

To our knowledge, little to no research has so far tackled the impact of discrete negative or positive emotions on the information processing strategies when dealing with decision tasks. However, in line with Tiedens and Linton (2001) we argue that emotions described by specific patterns of appraisals on the certainty-

uncertainty dimension are differently associated to the two information processing systems: automatic versus controlled. When confronted with a strategic issue, decision makers who experience anger, disgust – negative emotions related to certainty – or contentment, happiness – positive emotions related to certainty – are likely to engage in an automatic processing mode, with higher reliance on heuristics. On the other hand, sad, worried, anxious decision makers – negative emotions related to uncertainty – or the ones that experience hope or surprise – positive emotions related to uncertainty – are likely to engage in thorough, systematic, bottom-up processing. Further research is needed to document the impact of certainty and uncertainty related emotions on information processing styles when dealing with a decision task.

Figure 4



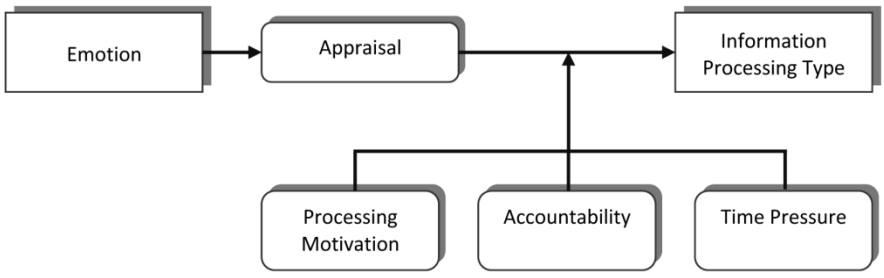
As we have mentioned above, certainty related emotions increase and uncertainty related emotion decrease the reliance on heuristics or system 1 related processes. Still, the effects elicited by appraisal can be overridden by other factors related to the decision situation such as accountability (Bodenhausen, Kramer and Susser, 1994a), time pressure (Lazarus & Eriksen, 1952; Palermo, 1957) or related to the decision maker's characteristics such as increased processing motivation (Fiske & Neuberg, 1990; Kruglanski, 1989), that can act as moderators.

For example, when experiencing fear during the decision process associated with a threat framing of the situation, one would expect the activation of a controlled processing. However, some studies have pointed out that if the decision situation is also characterized by time pressure, this will favor the triggering of an automatic type of processing when making the decision (Lazarus & Eriksen, 1952; Palermo, 1957) which results in a more rapid and less effortful choice.

Similarly, asking individuals to justify their response after making the decision was proven to increase the decision maker's motivation to process the data at hand and employ a controlled processing style, irrespective of other variables acting at the moment (e.g. affect). For example, Bodenhausen, Kramer and Susser (1994a) showed that although people in a positive mood are likely to engage in an automatic type of processing, when the participants were asked to justify their responses they were more likely to engage in a controlled type of processing.

As such, further research should also focus on documenting the exact interplay among emotions, situation demands and decision maker's characteristics in favoring one processing strategy over the other.

Figure 5



Starting from the integrative decision making model elaborated within the first part of the thesis, the following chapters focused on testing several propositions derived from the model, on the one hand, and on further elaborating other sections, on the other hand.

CHAPTER 2

Effective Decision Making: The Role of Cognitive Complexity in Strategic Decisions

As such, **the second chapter** of the thesis sought to explore the role of activated representations in the working memory of the individual within the decision making process. On a sample of Romanian SMEs entrepreneurs, the mediating role of cognitive complexity in the relationship between a set of motivational attributes (self-efficacy, need for cognition and tolerance for ambiguity) and decision-making effectiveness was tested.

CHAPTER 3

Cognitive Representations of Institutional Change: Similarities and Dissimilarities in the Cognitive Schema of Entrepreneurs

The third chapter investigated the role of cognitive factors in explaining how exogenous institutional change impacts on organizational actions. The study integrated institutional theory with the work on cognition and explored how cognitive representations affect the relation between environmental pressures and organizational responses, as a result of strategic decision making processes.

By focusing on the role of activated cognitive representations and using the same methodology – cognitive mapping –, the two previously mentioned studies add to the literature on entrepreneurial cognition in several ways. Chapter 2 adds a cognitive perspective to the literature on strategic decision-making and tests a

core assumption, namely that cognitive complexity mediates the impact of three motivational attributes – need for cognition, self-efficacy and tolerance for ambiguity – on decision-making effectiveness. Second, it extends the research from large companies to SMEs, a domain that was rather unexplored until now, and sheds light on some of the cognitive factors underlying strategic decisions. Through a qualitative study, chapter 3 further investigates the cognitive representations that entrepreneurs develop in relation to decisions occurring during institutional change and shows how different types of representations have different impacts on decision processes and decision outcomes. Both studies in chapters 2 and 3 contribute to the extant literature on SDM by introducing cognitive mapping as a methodological approach to exploring the entrepreneurs' cognitive representations.

All in all, the most relevant insights provided by the above mentioned chapters refer to the questions below.

- **What are the major factors that influence the elaboration of the cognitive representation related to the decision situation? How do dispositional variables pertaining to the decision maker's motivation influence the decision making process? Which variables enhance the effectiveness of the decision making process? Which ones are detrimental?**

With respect to the factors that influence the elaboration of the cognitive representation of the decision, the results of study 2 and study 3 indicate the following: (1) Motivational traits such as need for cognition and self-efficacy of the decision-maker positively influence the complexity of the decision representation, while tolerance for ambiguity has only a small negative effect upon it. (2) The more intense the exposure to specific environmental pressures (e.g.

institutional change) is, the richer the cognitive representations elaborated by entrepreneurs will be.

More specifically, the results of study 2 show that entrepreneurs with high need for cognition are more thorough in elaborating conceptually rich representations of the organizational environment, as a result of the preference for an active information search and a more elaborated and accurate cognitive processing.

Also entrepreneurs with high levels of self-efficacy, who are highly confident in their own capacity to dispose of their cognitive and motivational resources, associated with high levels of concentration and a more effective management of their cognitive resources (Bandura, 1977) were also shown to elaborate more complex representations of the decisional situation.

Although initially expecting a strong negative effect of tolerance for ambiguity on the complexity of the cognitive representation, our findings provided only limited support for such an effect. However we need to interpret such a result with caution due to the small sample size and possibly the diversity of industries and decisions. Moreover, socio-economic and political factors may have combined to overshadow the effects of tolerance for ambiguity on the complexity of the decisional task representation.

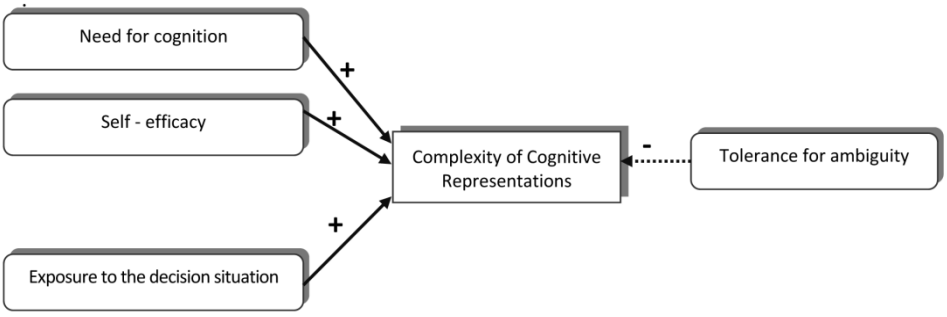
In terms of information processing strategy, both need for cognition and self-efficacy are likely to trigger a controlled type of processing, contributing to the elaboration of complex representations of the decision situation. In contrast, tolerance for ambiguity is likely to trigger an automatic type of processing leading to a less complex representation.

Next to the dispositional variables, another factor influencing the richness of the cognitive schema is the intensity of exposure to the decision situation. Study 3 emphasized that entrepreneurs who made decisions *after* the situation of institutional change (IC), thus after they were more exposed to the environmental pressures,

developed a more complex representation of the IC compared to their counterparts who made decisions *before* the IC. In other words, the former incorporated a higher amount of concepts and links referring to the IC and the way it is connected to the strategic decision making process. The cognitive schema elaborated after the IC contained a much more detailed picture of what the EU integration is – as the IC, what kind of factors related to it are of main concern for the economical trajectory of SMEs and upon how, when and in which way are these factors expected to impact the organization.

Considering the impact of both dispositional and environmental factors (such as: need for cognition, self-efficacy, tolerance for ambiguity and exposure to the decision situation) upon the decision effectiveness, study 2 and study 3 brought evidence in support of an indirect effect, mediated by the complexity of the cognitive representations developed with respect to the decision situation. This means that high levels of need for cognition, self-efficacy and exposure to the decision situation as compared to low levels of tolerance for ambiguity contribute to the elaboration of more complex representations of the strategic issue, which in turn contributes to making an effective choice.

Figure 6



- **How is the decision making situation cognitively represented? What type of information pertaining to the decision situation do the strategic decision makers represent?**

Previous studies (e.g., Baron & Ward, 2004, Hastie, 2001) argued that the exploration of cognitive representation is essential for understanding the entrepreneurial decision-making. To date the literature focused on testing the impact of cognitive representations elaborated by entrepreneurs upon the decision effectiveness and little to no attention was shown to exploring the structure of knowledge representations.

Within the second and third study a cognitive mapping technique was used in order to elicit the cognitive representations of small and medium sized company entrepreneurs. The decisions ranged from: organizing a public event in order to gain more visibility, changing the internal functioning schema according to the international success models, making significant investments in infrastructure or starting an ISO standardization process to closing out the business. Irrespective of the type of decisions, the qualitative analysis performed within the third study allowed the identification of a common structure of the decision representation. At least 80% of the cognitive representations elaborated by the entrepreneurs were built around eight topics of information. These are related to: organizational structure, decision-making process, internal causes, external causes, decision risks, decision alternatives, problems in implementation and the consequences of the decision implementation.

Moreover, in line with Hastie (2001), study 3 managed to set the basis for exploring the dynamics of such cognitive representations of decision situations in relation to external environmental pressures, namely an institutional change process – IC

- (e.g. the integration of Romania into the European Union). The main insights following this research referred to the following facts. (1) The richness of the new schemas related to the IC embedded within the cognitive representation of the decision situation is higher in the sample of individuals who made decisions *after* the IC. This is potentially due to the extent to which decision makers were exposed to the institutional pressures. (2) The cognitive schemas related to the IC differed also qualitatively in the sample of entrepreneurs who made decisions before the IC, compared to those who made the decisions after the IC. More specifically, the group that was interviewed about strategic decisions *before* Romania's integration into the EU represented the IC mainly as a threat and major risk for their strategic choices, while the interviewees of the second group perceived it both as a threat as well as an opportunity. Such a qualitative difference between the two samples might also be dictated by the amount of exposure to the IC and the amount of information available about the process.

- **What is an adequate methodological approach to elicit such cognitive representations?**

Within study 2 and 3 I argued and supported with evidence the claim that cognitive mapping is one of the most suited methodological approaches to exploring the decision maker's cognitive representations. With a procedure designed for eliciting the cognitive representations as a result of processing the decision makers' interviews, the cognitive mapping technique proves to be a simple and parsimonious method that allows researchers' access into the "inaccessible" world of human information processing (Curşeu, 2008)

The cognitive maps subjected to analysis within the two studies were elaborated according to the same protocol. In short, each cognitive map comprised two distinct elements: a set of nodes

representing the concepts related to the decision situation elicited during the interview, and lines standing for different types of relationships among the concepts such as: causal, chronological, structural, hierarchical, associative, equivalence and topological relations. As such, the elaborated conceptual network becomes suited for the analysis of both: (1) the web of meaning, namely the *content* of cognitive representation, as well as (2) its *complexity*, which can become a subject of quantitative data analysis

- **How does the cognitive representation of a decision situation impact the decision effectiveness?**

Both the second and the third studies provide strong empirical evidence for the fact that the complexity of the cognitive representations developed in relation to a decision situation has a strong impact upon the decision effectiveness.

More specifically, study 2 pointed out that highly elaborated cognitive representations are beneficial for the decision making process. Individuals with a high level of cognitive complexity have the capacity to perceive the decision situation from multiple, complementary perspectives. Therefore, they develop rich cognitive schema that capture a higher number of relationships and concepts concerning the decisional situation and process. This leads to more efficient decisional outputs. More specifically, in the Romanian context of SMEs described by the ambiguity and velocity pertaining to economic, political and social factors, entrepreneurs with high levels of cognitive complexity tend to perform better in decisional tasks with a medium or high level of difficulty.

Chapter 3 also supports this finding and adds some qualitative insights. This study outlines that the richness of the conceptual cluster around the institutional change (as a major environmental pressure) embedded in the cognitive schemas related to the decision

situation seems to be positively associated with the decisional outcomes. Furthermore, it is not only the 'quantity' but also the 'quality' of the cognitive representations related to the decision that counts.

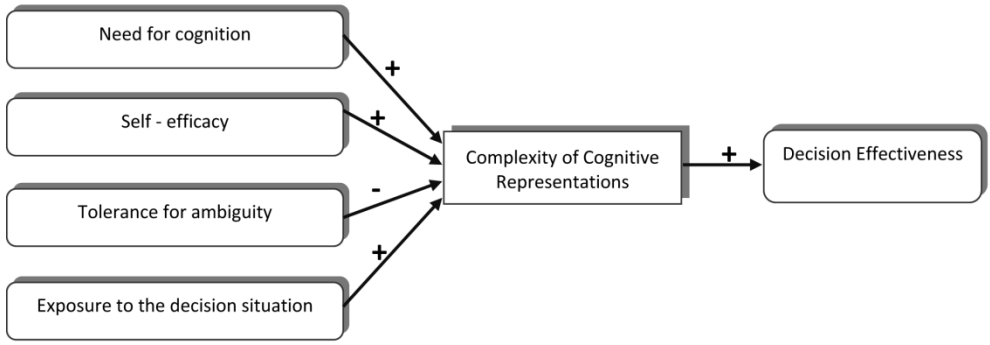
More specifically, entrepreneurs interviewed *post* IC who had a more detailed representation of the changes following the integration of Romania in the EU (as an IC) also tended to conceptualize them as an opportunity for the development of their lines of business. In addition, the strategic decisions they made were more positive in nature, ranging from: organizing a public event in order to gain more visibility, changing the internal functioning schema according to the international success models – as a starting point for future penetration of the external market, to making significant investments in infrastructure or starting an ISO standardization process in order to increase the quality of the provided products or services. The consequences they saw as related to the above decisions were also positively assessed by the decision makers (e.g. increase in the quality of products or services, satisfaction with the decision, increase in the number of clients, increase in profit, fulfillment of a step in the strategic business plan for the following five years).

In contrast, the entrepreneurs interviewed *before* the IC developed poorer cognitive representations of the IC. They mostly viewed the change as a threat and associated it with high ambiguity and uncertainty. Only a few conceptualized it as an opportunity. Entrepreneurs knew that their companies would get to be exposed to a series of institutional threats, yet they were not exactly sure what these threats will be. As such, both their decisions (e.g. closing the business) as well as the reported outcomes (e.g. financial loss, inability to recover the investment) were less satisfying for the decision maker.

One possible explanation might lie in the fact that the entrepreneurs interviewed after the IC had more exposure to the change in the environment. They were able to grasp more details related to the IC, including the positive ones that would further allow them to assess the IC as an opportunity and act accordingly.

Another important finding was that cognitive complexity was proven to act as a mediator between motivational traits – which impact the underlying information processing strategies – and decision-making effectiveness. That is, entrepreneurs with a high level of need for cognition and self-efficacy are likely to develop complex cognitive representations of the decision situation, which in turn enhances the decision effectiveness. On the other hand, insufficient support was received for cognitive complexity acting as a mediator between tolerance for ambiguity and decision effectiveness.

Figure 7



CHAPTER 4

Opportunities and Threats in an Institutional Change Setting: the Impact on Strategic Types of SMEs

The fourth chapter refined the concepts of opportunities and threats – as two representations that entrepreneurs build in relation with the environment. Extending the threat-rigidity hypothesis, the study tested the joint effect of opportunities and threats on the SMEs strategic orientations in a situation of macro institutional change and provided an answer to the following research question:

- **How is the individual cognition related to the environmental pressures, on the one hand, and the strategic orientation of the firm, on the other hand? Or more, specifically, how does the way entrepreneurs represent the strategic decision situation – in terms of opportunities and threats – impact the strategic orientation of the SME?**

Departing from the threat-rigidity hypothesis (Staw et al., 1981) but in line with the findings reported in chapter 3, the results of the fourth study clearly point out the importance of the way decision makers represent the environmental setting for the strategic decisions they make and the company's strategic orientation per se.

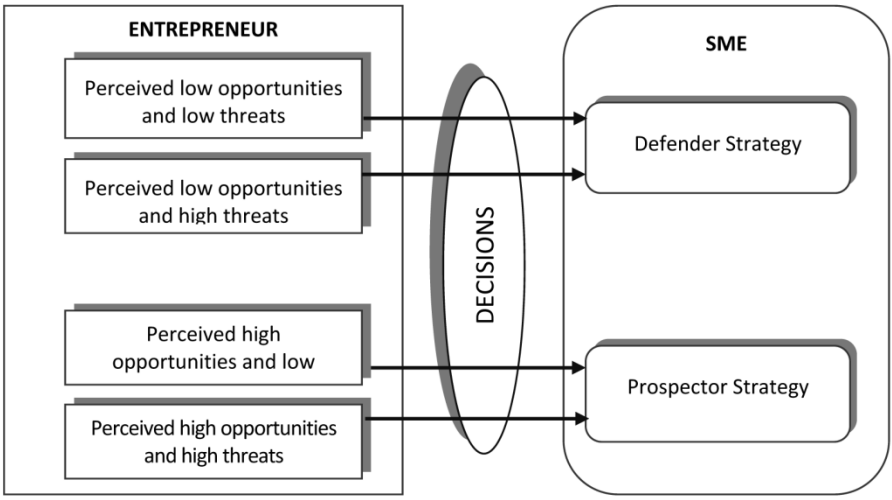
When faced with a complex environment such as a macro-institutional change, the entrepreneurs of SMEs develop complex, mixed readings of the environment, which were shown to impact the strategic orientation. According to the salience of the environmental cues, they interpret the organizational setting as bringing along either both opportunities and threats, in various amounts.

The entrepreneurs operating in a dynamic environment who perceived high levels of opportunities are more likely to employ a *prospector* strategy and show a non-isomorphic behavior. This

propensity increased with the associated perception of threats. Since the prior routines might not be appropriate under the new conditions (e.g. the existence of opportunities that can be taken advantage of) and in order to optimally respond to the new environmental pressures (e.g. threats pointing out to major environmental changes) and achieve performance, the prospectors will make strategic decisions that promote new, unprecedented courses of action

On the other hand, the entrepreneurs who perceive the environment as including low levels of opportunities are likely to promote an isomorphic way of dealing with strategic issues and act in a *defender* style. This propensity increased with the associated perception of threats. Since the perceived low level of opportunities might be interpreted as a clue for the validity of the old legitimate ways, the defenders might try to preserve their status-quo by making strategic decisions that promote previously well-learned routines, already proven in terms of efficacy. An increasing perception of threat associated to the perception of a low level of opportunities can only drive the entrepreneurs towards a restriction of information processing that ultimately results in a reliance on prior knowledge and past experience, thus a defender style.

Figure 8


ENTREPRENEUR
Perceived low opportunities and low threats
Perceived low opportunities and high threats
Perceived high opportunities and low
Perceived high opportunities and high threats
DECISIONS
SME
Defender Strategy
Prospector Strategy

CHAPTER 6

BRIDGING THE GAP

Theories are useful for they organize knowledge. However they truly become relevant when they can contribute to real life practices. Research on the 'content' area of strategic decision making has been very generous in terms of findings. Yet, only by also taking a closer look at the 'process' per se and the factors which affect it would the strategists, the business consultants or the entrepreneurs gain real insights about how to conduct an effective strategic decision making process. An integrative vision upon the decision making process and all the variables impacting it is necessary in order to make an adequate diagnosis followed by intervention upon the decision process.

The micro-level model of decision making developed during the current thesis did not only aim to integrate previous contradictory or complementary research on the topic, nor did it aim only to launch further research directions. Instead, a pragmatic target of this demarche was to provide practitioners with an 'instrument' that could facilitate the analysis or diagnosis of the strategic decision making processes and further help them increase their effectiveness.

Since 'practitioners' means decision makers – in this case the entrepreneurs of SMEs – as well as their educators – trainers, consultants and so forth –, the instrument meant to improve the decision making effectiveness should address both. As such, some of the most relevant insights driven from the studies in the current thesis have been condensed in the table below in the form of a set of behavioral rules meant to guide entrepreneurs of SMEs when making strategic decisions.

Table 1 – Decision making guideline for entrepreneurs of SMEs

1. Cognitive complexity is positive for decision making effectiveness.

The results of the studies presented in the Chapters 2 and 3 of the current thesis have shown that a complex cognitive representation of the decision situation is highly beneficial for the perceived decision effectiveness. More specifically, study 2 pointed out that individuals with a high level of cognitive complexity have the capacity to perceive the decision situation from multiple, complementary perspectives. Therefore, they develop rich cognitive schema that capture a higher number of relationships and concepts concerning the decisional situation and process. This leads to more efficient decisional outputs as reported by the entrepreneurs.

On the other hand, study 3 adds qualitative insight and outlines that the richness of the conceptual cluster around the institutional change (as a major environmental pressure) embedded in the cognitive schemas related to the decision situation seems to be positively associated with the decisional outcomes.

1.1. Try to develop a complex understanding of the decision situation, by collecting the relevant data on the matter at hand.

As such, the following points could act as a guideline for the entrepreneurs in the position of making a strategic decision:

When dealing with complex strategic issues, a key factor in making an optimal decision is to collect, process and finally incorporate into the cognitive representation all the relevant information available upon the matter at hand. Studies 2 and 3 have proved that a match between the complexity of the decision situation and the complexity of its cognitive representation is required for an effective decision making process. More specifically, the elaboration of a complex representation of the decision situation is required for an entrepreneur to perform effectively in a medium or highly difficult

1.2. Make sure to get exposed to the decision situation and context as much as possible in order to develop a more complex and accurate

When entrepreneurs of SMEs are exposed to the strategic issue requiring a decision, they interact with a significant amount of information pertaining to the issue at hand. The longer the time of exposure to the environmental pressures pertaining to the decision situation, the more likely are entrepreneurs to incorporate such decision relevant information into their cognitive representation.

Further on, a complex representation of the decision situation will ensure a more effective decision making process as supported by the results in Chapters 2 and 3.

For example, the study presented in Chapter 3 has proved that there is a dynamic of the cognitive representation of the institutional pressures (e.g. the changes associated with Romania's integration into the EU) that varies in terms of complexity with the amount of exposure time. Further on, the cognitive representations of the environmental pressures pertaining to the decision also varies in terms of quality when considering the exposure time to the decision situation. And the complexity and quality of these representations ultimately impact the perceived decision effectiveness.

Entrepreneurs who made decisions before the IC, thus being less exposed to its effects, incorporated into their cognitive representation of the decision situation less information pertaining to these environmental pressures. The environmental changes were mostly perceived as threats or highly ambiguous which further lead to more detrimental decisions. On the other hand, entrepreneurs who made decisions after the IC had a more detailed representation of the changes following the integration of Romania in the EU (as an IC). Unlike the former case, these changes were represented also as opportunities, and the entrepreneurs acted accordingly by making more advantageous decisions.

1.3. Try to build awareness upon the impact personal characteristics such as need for cognition and self-efficacy have upon decision making and try

Several individual variables such as need for cognition and self-efficacy have been proved (please check study 2) to make the decision maker more prone to gathering decision relevant information and developing a more complex cognitive representation that further leads to a more effective decision process. By comparison, individuals with low levels of need for cognition and self-efficacy are more unlikely to naturally engage in such processes. However this can be compensated by an acquired step-by-step approach of the decision making process that would require a stage of information collection and extensive analysis so as to override the dispositional tendency.

2. Allow yourself enough time for making the decision.

Time pressure at the moment of the decision drives an automatic, rapid type of processing. This processing mode favors the reliance on pre-existing general knowledge structures and short-circuits the integration of new, decision relevant information in the cognitive representation. The output is an oversimplified cognitive schema of the decision situation which, as previously argued, is the catalyst for a defective decision process.

3. Assess the way the decision information is presented to you: framed in a positive or negative manner, and decide how you will act upon it.

Whenever making a decision, relevant information can be available in the environment framed in a negative – threat like – or in a positive – opportunity like – manner. When dealing with such information, assess whether it can be interpreted in positive or negative terms, as opportunity or threat, and then make an informed choice. A specific type of framing usually drives a specific type of decision which further impacts the strategic orientation of the SME.

Study 3 has already brought support for the fact that the way entrepreneurs interpret the decision related information coming from the environment impacts the type of strategic choices they make. Study 4 has further explored this link and showed that framing the environmental pressures in terms of opportunities and threats has a close impact upon the very strategic orientation of the company.

More specifically, entrepreneurs operating in a dynamic environment who perceived high levels of opportunities are more likely to employ a *prospector* strategy and show a non-isomorphic behavior. This propensity increased with the associated perception of threats.

On the other hand, the entrepreneurs who perceive the environment as including low levels of opportunities are likely to promote an isomorphic way of dealing with strategic issues and act in a *defender* style. This propensity increased with the associated perception of threats.

4. When making a decision, expect to justify your choice at a later point.

As posited in Chapter 1, the tendency to process the decision information in an automatic manner by using cognitive shortcuts can be overridden by accountability. Thinking that you will have to justify your choice at a later point is an efficient trigger of the controlled processing. This more extensive, bottom-up type of processing can prevent the potential biases to the decision making process.

Another innovative way that this research can contribute to strategic management is by pointing out the usefulness of developing research guided gaming/simulations aimed to train entrepreneurs upon how to make optimal strategic decisions.

Games and simulations are experiential activities that place individuals in a micro-world where they apply their knowledge, skills and strategies in the execution of their own roles and achievement of the desired results. More specifically, during simulations individuals interact with real-world settings, they address issues, threats and different problems that arise in the situation according to an ever evolving scenario. The most valuable characteristic though is the fact that during simulations, participants receive realistic feedback on their actions as a change in the status of the problem addressed and as reactions from other players. All in all, the better the fit between the real-life and the simulation setting, the bigger the validity and learning value of the simulation (Alessi, 1988)

Previous data already brought support for the efficiency of gaming/simulations in developing new skills, raising awareness and motivation or providing knowledge and insight (Geurts, Caluwe, Stoppelenburg, 2000). Moreover, they also support the fact that by being involved in specific games and simulations, individuals develop

expert behaviors such as problem solving and decision-making (VanDeventer & White, 2002), while also increasing their desire to make the right decisions (Johnson, 2005).

As such, designing relevant real-life simulations meant to develop the entrepreneurs' ability to search and integrate decision information in order to elaborate a complex understanding of the decision situation would definitely bring the highest benefits in terms of increasing the effectiveness of the decisions made by such entrepreneurs.

So far, most of the educational materials have provided practitioners with well-defined strategic issues requiring a decision (Gredler, 2004) and with standard decision practices and routines meant to increase its effectiveness (e.g. pro and con technique, PMI technique, matrix analysis technique). However, entrepreneurs in charge of SMEs operate in highly unstructured, dynamic environments where strategic issues are most of the times ill-defined. Ill-defined problems are those in which either one or all of the following: the givens, the desired state and the operators/ the steps to be taken in-between the current and desired state are unclear (Mayer & Wittock, 1996).

The study presented in Chapter 3 of the current thesis has already outlined the nature of environmental characteristics the entrepreneurs are dealing with when making strategic decisions. When institutional pressures first arise they are ambiguous, ill-defined. Entrepreneurs do not have access at all the relevant information regarding the environmental changes afflicting their organization; they often cannot foresee the consequences of such institutional change. However, there is a dynamic in the availability of relevant information coming from the environment and such a dynamic was proven (see Chapters 3 and 4) to have an impact on the cognitive representations developed by the entrepreneurs and

further on the way these representations are translated into strategic decisions and organizational action.

In this particular case, trying to teach entrepreneurs how to make more effective decisions by using the techniques mentioned above becomes irrelevant and obsolete.

The advantage of simulations in this context is that they can incorporate such ill-defined strategic issues within their scenarios and thus bridge the gap between exercise and real-world, between theory and practice. If exposed to simulations focusing on strategic issues that generate strategic decisions, entrepreneurs would get the opportunity to apply their knowledge and skills and develop adequate routines according to their roles (such as extensive information search, acknowledgement of the affect present during the decision process and awareness regarding its potential effects etc.). Such routines would allow them a more effective approach of real-life strategic decision-making. Moreover, gaming and simulation could also contribute to the entrepreneurs' personal development by revealing the gaps in their knowledge, the weaknesses related to their skills and strategies related to decision-making.

Simulations were originally developed to serve pilots and astronauts and provide them with learning experiences that would otherwise be too costly in the real-world. SMEs hold a leading position in our economies. However, one cannot afford, also in terms of costs, not to use such methods in order to improve the entrepreneurs' ability of addressing strategic decision making processes.

REFERENCES

Alessi, S. M. (1988). Fidelity in the design of instructional simulations. *Journal of Computer-based Instruction, 15*(2), 40–49.

Allan, L. G., Siegel, S., & Hannah, S. (2007). The sad truth about depressive realism. *Quarterly Journal of Experimental Psychology*, 60, 482-495.

Allison, G.T. (1971). *Essence of decision: Explaining the Cuban missile crisis.* Boston: Little, Brown, Scott, Foresman and Company.

Amir, N., Foa, E. B., & Coles, M. E. (1998). Automatic activation and strategic avoidance of threat-relevant information in social phobia. *Journal of Abnormal Psychology*, 107, 285-290.

Armony, J. L. & Dolan, R. J. (2002). Modulation of spatial attention by fear-conditioned stimuli: an event-related fMRI study. *Neuropsychologia* 40, 817 -826.

Arnold, M. B. (1960). *Emotion and personality: Vol. 1. Psychological aspects.* New York: Columbia University Press.

Ashfort, B. E. & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14, 20-39.

Audretsch, D., van der Horst, R., Kwaak, T. & Thurik, R. (2009). *First Section of the Annual Report on EU Small and Medium-sized Enterprises*

Bacharach, S.B., Bamberger, P., & Sonnenstuhl, W.J. (1996). The organizational transformation process: the micropolitics of dissonance reduction and the alignment of logics of action. *Administrative Science Quarterly*, Vol 41, pp. 477-506.

Bailey, J.R. (1997). Need for Cognition and Response Mode in the Active Construction of an Information Domain. *Journal of Economic Psychology*, 18, 69-85.

Baker, T. L. (1999). *Doing social research*. Boston: McGraw-Hill.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.

Bargh, J. A. (1994). The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (2nd ed., Vol. 1, pp. 1-40). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Bailey, J.R. (1997). Need for Cognition and Response Mode in the Active Construction of an Information Domain. *Journal of Economic Psychology*, 18, 69-85.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.

Bandura, A. & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88, 87-99.

Bargh, J. A., & Chartrand, T. L. (1999). The unbearable automaticity of being. *American Psychologist,* 54, 462–479.

Bar-Haim, Y., Lamy, D., Pergamin, L., Bakermans-Kranenburg, M. J. & van Ijzendoorn, M. H. (2007). Threat-related attentional bias in anxious and nonanxious individuals: A meta-analytic study. *Psychological Bulletin*, 133, 1-24.

Barnard, C. I. (1938). *The functions of the executive.* Cambridge, MA: Harvard University Press.

Baron, R. A. (2008). The role of affect in the entrepreneurial process. *Academy of Management Review*, 33(2), 328-340.

Baron, R. A. & Ward, T. B. (2004). Expanding entrepreneurial cognition's toolbox: Potential contributions from the field of Cognitive Science. *Entrepreneurship, Theory, Research and Practice*, 28, 553-574.

Baugh, B. T. & Mason, S. E. (1986). Need for cognition related to time perception. *Perceptual and Motor Skills*, 62, 540-542.

Baum, J.A.C. & Oliver, C. (1991). Institutional linkages and organizational mortality. *Administrative Science Quarterly*, 36(2), 187–218.

Bechara, A. (2004). The role of emotion in decision-making: Evidence from neurological patients with orbitofrontal damage. *Brain and Cognition*, 55, 30-40.

Bechara, A., Damasio, H & Damasio, A. R. (2003). The role of the amygdale in decision-making. Annals of the New York Academy of Sciences 985, 356-369.

Bechara, A., Damasio H. & Damasio, A. R. (2000). *Emotion, Decision Making and the Orbitofrontal Cortex*. Cerebral Cortex, 10, 295-307.

Bechara, A., Tranel, D., Damasio, H. & Damasio, A. R. (1996). Failure to respond autonomically to anticipated future outcomes following damage to prefrontal cortex. *Cerebral Cortex*, 6, 215-225.

Bechara, A., Damasio, H., Damasio, A. R & Lee, G. P. (1999). Different contributions of the human amygdala and ventromedial prefrontal cortex to decision-making. *Journal of Neuroscience*, 19, 5473-5481.

Betsch, C. (2007). Chronic preferences for intuition and deliberation in decision making: Lessons learned about intuition from an individual differences approach. In H. Plessner, C. Betsch , & T. Betsch (Eds.), Intuition in judgment and decision making (pp. 231–248). Mahwah, NJ: Lawrence Erlbaum.

Betsch, C. & Kunz, J. (2008). Individual Strategy Preferences and Decisional Fit. Journal of Behavioral Decision Making, 21, 532-555.

Bhide, A. V. (2000). *The origin and evolution of new business*, New York: Oxford.

Bieri, J. (1955). Cognitive complexity-simplicity and predictive behavior. *Journal of Abnormal and Social Psychology*, 51, 263-268.

Bisson, M. A., & Sears, C. R. (2007). The effect of depressed mood on the interpretation of ambiguity, with and without negative mood induction. *Cognition and Emotion*, 21, 614-645.

Blaylock, B. K. & Rees, L. P. (1984). Cognitive style and the usefulness of information. *Decision Science*, 15, 74-91.

Blanchette, I. (2006). The effect of emotion on interpretation and logic in a conditional reasoning task. *Memory & Cognition*, 34, 1112-1125.

Blanchette, I., & Campbell, M. (2005). The effect of emotion on syllogistic reasoning in a group of war veterans. Paper presented at the XXVIIth Annual Conference of the Cognitive Science Society, Stresa, Italy.

Blanchette. I & Richards, A. (2009). The influence of affect on higher level cognition: A review of research on interpretation, judgment, decision making and reasoning. Emotion and Cognition, 24(4), 561 – 595.

Bless, H., Bonher, G., Schwarz, N., & Strack, F. (1990). Mood and persuasion: A cognitive response analysis. *Personality and Social Psychology Bulletin*, 16, 331-345.

Bless, H., Clore, G.L., Schwarz, N., Golisano, V., Rabe, C., & WoÈ lk, M. (1996). Mood and the use of scripts: Does being in a happy mood really lead to mindlessness? *Journal of Personality and Social Psychology*, 71, 665-679.

Bless, H., & Schwarz, N. (1999). Sufficient and necessary conditions in dual process models: The case of mood and information processing. In S. Chaiken & Y. Trope (Eds.), *Dual Process Theories in Social Psychology* (pp. 423-440). New York, NY: Guilford Press.

Bodenhausen, G. V., Kramer, G. P. & Susser, K. (1994a). Happiness and stereotypic thinking in social judgement. *Journal of Personality and Social Psychology*, 66, 621-632.

Bodenhausen, G. V., Kramer, G. P. & Susser, K. (1994b). Negative affect and social judgement: The differential impact of anger and sadness. *European Journal of Social Psychology*, 24, 45-62.

Boland, R. J., Singh, J., Salipante, P., Aram, J. D., Fay, S. Y., & Kanawattanachai, P. (2001). Knowledge representations and knowledge transfer. *Academy of Management Journal*, Vol. 44 No. 2, pp. 393-417.

Bourgeois, L. J. (1980). Strategy and environment: A conceptual integration. Academy of Management Review, 5. 25-39.

Bourgeois, L. & Eisenhardt K. (1988). The politics of strategic decision-making in high velocity environments: Towards a mid-range theory. *Academy of Management Journal*, 31 (4), 737-770.

Bower, G. H., Gilligan, S. G. & Monteiro, K. P. (1981). Selectivity of learning caused by affective states. *Journal of Experimental Psychology: General*, 110, 451-473.

Brewer, M. B. (1988). A dual process model of impression formation. In R. S. Wyer & T. K. Srull (Eds.), *Advances in* social *cognition* (Vol. 1, pp. 1-36). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Brief, A. P. & Downey, H. K. (1983). Cognitive and organizational structures: A conceptual analysis of implicit organizing theories. *Human Relations*, 36, 1065-1090.

Brouthers, K. D., Andriessen, F. & Nicolaes, I. (1998). Driving Blind: Strategic decision-making in small companies. *Long Range Planning,* 31, 130-138.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, 30, 29-50.

Butler, G., & Mathews, A. (1987). Anticipatory anxiety and risk perception. *Cognitive Therapy and Research*, 11, 551-565.

Busenitz, L.W. & Barney, J. (1997). Differences between entrepreneurs and managers in large organizations: biases and heuristics in strategic decision-making. *Journal of Business Venturing,* 12, 9-30.

Byers, T. & Slack, T. (2001). Strategic decision-making in small businesses within the leisure industry. *Journal of Leisure Research*, 33, 121-136.

Cacioppo, J. & Berntson, G. (1994). Relationship between attitudes and evaluative space: A critical review, with emphasis on the separability of positive and negative substrates. *Psychological Bulletin*, 115: 401-423.

Cacioppo, J. T. & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42, 116-131.

Cacioppo, J. T., Petty, R. E., Feinstein, J. A. & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life times of individuals varying in need for cognition. *Psychological Bulletin*, 119, 197-253.

Calori, R., Johnson, G., & Sarnin, P. (1994). CEO's cognitive maps and the scope of the organization. *Strategic Management Journal*, Vol. 15, pp. 437-457.

Campbell, D. T. (1965). Variation and selective retention in socio-cultural evolution. In H. R. Barringer, G. I. Blankesten and R. Mack (eds.), *Social Change in Developing Areas*: 19-49, Cambridge, MA: Schenkman.

Cardinal, L., Sitkin, S. & Long, C. (2004). Balancing and rebalancing in the creation and evolution of organizational control. *Organization Science*, 15, 411-431.

Carley, K. M. (1993). Coding choices for textual analysis: A comparison of content analysis and map analysis. In Marsden, P. V. (Ed.), *Sociological methodology*, Vol. 23, Blackwell, Oxford, pp. 75-126.

Ceci, S. J. & Liker, J. K. (1986). A day at the races: A study of IQ, expertise and cognitive complexity. *Journal of Experimental Psychology*, 115, 255-266.

Chaffee, E. (1985). Three models of strategy, *Academy of Management Review,* 10, 89-98.

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39, 752-766.

Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic information processing within and beyond the persuasion context. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 212-252). New York: Guilford Press.

Chandler, A. (1962). S*trategy and structure. Chapters in the history of the industrial enterprise*, Cambridge: MIT Press.

Chattopadhyay, P., Glick, W. H., & Huber, G. P. (2001). Organizational actions in response to threats and opportunities. *Academy of Management Journal,* 44, 937–955.

Chen, C. C., Greene, P.G. & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?. *Journal of Business Venturing*, 13, 295-316.

Chen, G., Gully, S. M. & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4, 62-83.

Chiaburu, D. S. (2006). Managing organizational change in transition economies. *Journal of Organizational Change Management*, Vol. 19, No. 6, pp. 738-746.

Child, L. (1997). Strategic Choice in the Analysis of Action, Structure Organizations and Environment: Retrospect and Prospect, *Organization Studies*, 18(1), 43-76.

Chittoor, R., Ray, S., Aulakh, P. S. & Sarkar, M. B. (2008). Strategic responses to institutional changes: 'Indigenous growth' model of the Indian pharmaceutical industry. *Journal of International Management*, 14, 252-269.

Chreim, S. (2006). Managerial frames and institutional discourse of change: employee appropriation and resistance. *Organization Studies*, Vol. 27, No. 9, pp. 1261-1287.

Christensen, C. R., Andrews, K. R., Bower, J. L., Hamermesh, R.G. & Porter, M. E. (1982). *Business policy: Text and cases*. Homewood, IL Irwin.

Clore, G. L. (1994). Why emotions are felt. In P. Ekman & R. J. Davidson (Eds.), The nature of emotion: Fundamental questions (pp. 103-111). New York: Oxford University Press.

Clore , G. L. (1992). Cognitive phenomenology: feelings and the construction of judgement. In L. L. Martin & A. Tesser (Eds.), *The Construction of Social Judgement* (pp. 133-164), Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, A. R., Stotland, E. & Wolfe, D. M. (1955). An experimental investigation of need for cognition. *Journal of Abnormal Social Psychology*, 51, 291-294.

Conant, J. S., Mokwa, M. P. & Rajan Varadarajan, P. (1990). Strategic types, distinctive marketing competencies and organizational performance: A multiple measures-based study, *Strategic Management Journal,* vol. 1l, 365-383.

Constans, J. I. (2001). Worry propensity and the perception of risk. Behaviour Research and Therapy, 39, 721-729.

Constans, J. I., & Mathews, A. M. (1993). Mood and the subjective risk of future events. Cognition and Emotion, 7, 545-560.

Constantin, T., Pop, D. & Stoica-Constantin, A. (2006). Romanian managers and human resource management. *Journal of Organizational Change Management*, Vol. 19, No. 6, pp. 760-765.

Critchley, H. D., Mathias, C. J. & Dolan, R. J. (2001). Neural Activity in the Human Brain Relating to Uncertainty and Arousal during Anticipation, *Neuron,* 29, (2) 537-545.

Cropanzano, R., & Wright, T. A. (1999). A 5-year study of change in the relationship between well-being and job performance. *Consulting Psychology Journal: Practice and Research***,** 51, 252–265.

Curşeu, P. L. (2006). Need for cognition and rationality in decision-making, *Studia Psychologica*, 48,141-156.

Curşeu, P. L. (2008). The role of cognitive complexity in entrepreneurial strategic decision-making. In P.A.M. Vermeulen & P. L. Curşeu (Eds.) *Entrepreneurial strategic decision-making. A cognitive approach*, Edward Elgar, Cheltenham, 2008, (p. 68-86).

Curşeu, P. L. & Boroş, S. (2008). Stereotypes and prejudice towards women managers: An experimental illustration using the Goldberg-paradigm in a Romanian sample. *Studia Psychologica*, 50, 3, 233-254.

Curşeu, P.L., Schalk, M.J.D. &Schruijer, S.G.L. (2010). The use of cognitive mapping in eliciting and evaluating group cognition. *Journal of Applied Social Psychology,* Vol. 40, pp. 1258-1291.

Curşeu, P. L. & Schruijer, S. (2008). The effects of framing on inter-group negotiation. *Group decision and negotiation,* 17, 347-362.

Curşeu, P. L., Schruijer, S. G. L. & Boroş, S. (2007). The effects of groups' variety and disparity on groups' cognitive complexity. *Group Dynamics: Theory, Research and Practice,* 11, 187-206.

Curşeu, P.L., Vermeulen, P.A.M. & Bakker, R.M. (2008). The psychology of entrepreneurial decisions. In Vermeulen, P.A.M. & Curseu, P.L. (Eds.), *Entrepreneurial strategic decision-making: a cognitive approach* (pp. 41-67). Cheltenham: Edward Elgar.

Daft, R. & Weick, K. (1984). Toward a model of organizations as interpersonal systems. *Academy of Management Review*, 9, 284-296.

Dagleish, T. (2004). The emotional brain. Nature Reviews, 5, 582-589.

Damasio, A. R. (2004). *Looking for Spinoza: Joy, sorrow, and the feeling brain*. Orlando: Harcourt.

Damasio, A. R. (1994). *Descartes' error: emotion, reason, and the human brain*. New York: Grosset/Putnam.

Damasio, A. R. (1996). *The somatic marker hypothesis and the possible functions of the prefrontal cortex*. Phil Trans R Soc Lond B, 351, 1413-1420.

Dane, E. & Pratt, M. G. (2007). Exploring intuition and its role in managerial decision-making. *Academy of Management Review*, 22(1), 33-54.

Davey, G. C. L., Bickerstaffe, S., & MacDonald, B. A. (2006). Experienced disgust causes a negative interpretation bias: A causal role for disgust in anxious psychopathology. Behaviour Research and Therapy, 44, 1375-1384.

Davis, T. R. V. & Luthans, F. (1980). A social learning approach to organizational behavior. *Academy of Management Review*, 5, 281-290.

Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58(4), 37–52

Dermer, J. (1973). Cognitive characteristics and perceived impact of information. *Accounting Review*, 48, 511-519.

DeSteno, D., Petty, R. E., Wegener, D. T., Rucker, D. D. (2000). Beyond valence in the perception of likelihood: The role of emotion specificity. Journal of Personality and Social Psychology, 78(3), 397-416

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56, 5-18.

de Vries, M., Holland, R. W. & Witteman, C. L. M. (2008). Fitting decisions: Mood and intuitive versus deliberative decision strategies. Cognition and Emotion, 22(5), 931-943.

DiMaggio, P.J. (1997). Culture and cognition: an interdisciplinary review. *Annual Review of Sociology*, Vol. 23, pp. 263-287.

DiMaggio, P. J. & Powell, W.W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review,* Vol. 48, pp. 147-160.

Dolan, R. J. (2002). Emotion, Cognition, and Behavior. *Science,* 298, 1191-1194.

Donaldson, L. (1995). *American anti-management theories of organization*. Cambridge: Cambridge, Univ. Press.

Dreyfus, H. L., & Dreyfus, S. E. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer.* New York: Free Press.

Dunegan, K. J. (1993). Framing, Cognitive Modes, and Image Theory: Toward an Understanding of a Glass Half Full. *Journal of Applied Psychology*, 78(3), 491-503.

Dutton, J . E. & Jackson, S. E. (1987). Categorizing Strategic Issues: Links to Organizational Action. *Academy of Management Review*, 12 (1), 76-90.

Easterbrook, J. A. (1959). The effect of emotion on cue utilization and the organization of behaviour. Psychological Review, 66, 183-201.

Eden, C. & Ackerman, F. (1992). The analysis of cause maps. *Journal of Management Studies*, 29, 309-324.

Eisenhardt, K. & Zbaracki, M. J. (1992). Strategic decision making. *Strategic Management Journal,* 13, 17-37.

Elsbach, K. D. & Sutton, R. I. (1992). Acquiring organizational legitimacy through illegitimate actions: A marriage of institutional and impression management theories. *Academy of Management Journal,* 31, 85-107.

Elster, J. (1999). Alchemies of the mind: Rationality and the emotions. Cambridge, England: Cambridge University Press.

Epstein, S. (1994). Integration of the cognitive and psychodynamic unconscious. *American Psychologist,* 49, 709–724.

Epstein, S. (2002). Cognitive-experiential self-theory of personality. In T. Millon & M. J. Lerner (Eds.), *Comprehensive handbook of psychology. Volume 5: Personality and social psychology,* 159–184. Hoboken, NJ: Wiley.

Esteves, F., Parra, C., Dimberg, U. & Ohman, A. (1994). Nonconscious associative learning: Pavlovian conditioning of skin conductance responses to masked fear-relevant facial stimuli. *Psychophysiology,* 31, 375-385.

Evered, R. (1983). So, what is strategy, *Long Range Planning,* 16 (3), 57-72.

Eysenck, M. W.(1976). Arousal, learning, and memory. *Psychological Bulletin*, 83(3), 389-404.

Fazio, R. H. (1986). How do attitudes guide behavior? In R. M. Sorrentino & E. T. Higgins (Eds.), Handbook of motivation and cognition (pp. 204-243). New York: Guilford.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations,* 7, 117-140.

Fiedler, K. (2000). Toward and integrative account of affect and cognition phenomena using the BIAS computer algorithm. In J. P. Forgas (Ed.), *Feeling and thinking. The role of affect in social cognition* (pp. 223-252). Cambridge, UK: Cambridge University Press.

Fillenbaum, S. & Rapoport, A. (1970). Emotion Names. In *Studies in the Subjective Lexicon* (Academic Press, New York).

Fiol, C.M. & Huff, A.S. (1992). Maps for managers: where are we? where do we go from here?. *Journal of Management Studies*, 29, 267-285.

Fiske, S. T., & Neuberg, S. L. (1988). A continuum model of impression formation: From category-based to individuating processes as a function of information, motivation, and attention. *Advances in Experimental Social Psychology*, 23, 1-108.

Fiske, S. T, & Neuberg, S. L. (1990). A continuum of impression formation from category-based to individuating processing: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology,* 23, 1-74. Orlando, FL: Academic Press.

Fiske, S. T. & Taylor, S. E. (1991). *Social cognition* (2nd ed.), McGraw Hill, New York.

Fligstein, N. (1985). The spread of multidivisional form among large firms, 1919-1979. *American Sociological Review*, 50, 377-391.

Forbes, D. P. (2000). *The strategic implications of managerial cognition and firm decision processes: Evidence from a new venture context*. Bell & Howell Information and Learning: Ann Arbor.

Forbes, D. P. (2005). The effects of strategic decision-making on entrepreneurial self-efficacy. *Entrepreneurship Theory and Practice*, 29, 599-626.

Forbes, D. P. (1999). Cognitive approaches to new venture creation. *International Journal of Management Reviews*, 1, 415-439.

Forgas, J. P. (Ed.). (2000). *Feeling and thinking: Affective influences on social cognition.* New York: Cambridge University Press.

Forgas, J. P. (1998). On feeling good and getting your way: Mood effects on negotiating strategies and outcomes. *Journal of Personality and Social Psychology,* 74, 565–577.

Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin,* 117, 39–66.

Forgas, J. P., Bower, G. H., & Krantz, S. E. (1984). The influence of mood on perceptions of social interactions. *Journal of Experimental Social Psychology*, 20, 497-513.

Forgas, J. P., & George, J. M. (2001). Affective influences on judgments, decision making and behavior in organizations: An information processing perspective. *Organizational Behavior and Human Decision Processes***,** 86, 3–34.

Fredrickson, J.W. & Mitchell, T.R. (1984). Strategic decision processes: comprehensiveness and performance in an industry with an unstable environment. *Academy of Management Journal*, 27, 399-423.

Frijda, N. H. (1986). *The Emotions,* Cambridge University Press, New York.

Fuglseth, A. M. & Gronhaug, K. (2002). Theory-driven construction and analysis of cause maps. *International Journal of Information Management*, 22, 357-376.

Gatignon, H. & Xuereb, J. M. (1997). Strategic orientation of the firm and new product performance, *Journal of Marketing Research,* 34, 77-90

George, E., P. Chattopadhyay, B. Sitkin, & Barden, J. (2006). Cognitive underpinnings of institutional persistence and change: A framing perspective. *Academy of Management Review,* Vol. 31 No. 2, pp. 347-365.

Geurts, J., Caluwe, L. & Stoppelenburg, A. (2000). *Changing organizations with gaming/simulations*. Elsevier, Gravenhage.

Gigerenzer, G. (2007). *Gut feelings: the Intelligence of the Unconscious*, Allen Lane, New York.

Gigerenzer, G. Hoffrage, U. & Kleinbölting, H. (1991). Probabilistic Mental Models: A Brunswikian Theory of Confidence. *Psychological Review*, 4, 506-528.

Gilovich, T. (1981). Seeing the past in the present: The effect of associations to familiar events on judgments and decisions. *Journal of Personality and Social Psychology*, 40, 797-807.

Gioia, D. A. & Manz, C. C. (1985). Linking cognition and behavior: A script processing interpretation of vicarious learning. *Academy of Management Review*, 10, 527-539.

Gist, M. & Mitchell, T. (1992). Self-efficacy: A theoretical analysis of its determinants and maleability. *Academy of Management Review*, 17, 183-211.Gist, M. & Mitchell, T. (1992). Self-efficacy: A theoretical analysis of its determinants and maleability. *Academy of Management Review*, 17, 183-211.

Gomez, A., Moreno, A., Pazos, J. & Sierra-Alonso, A. (2000). Knowledge maps: An essential technique for conceptualization.. *Data & Knowledge Engineering*, 33, 169-190.

Goodman, B. S. (1968). The measurement of an individual's cognitive map. *Administrative Science Quarterly*, 13, 246-265.

Gredler, M. E. (2004). Games and simulations and their relationship to learning. In D. H. Jonassen & M. E. Gredler (Ed.), *Handbook of research on educational communications and technology*, vol. 86. Lawrence Erlbaum Associates.

Greenwood, R. & Hinings, C. R. (1993). Understanding strategic change: The contribution of archetypes. *Academy of Management Journal*, 36, 1052-1081.

Grigoruta, M. V. (2006). Change in Romanian organizations: A management culture approach. *Journal of Organizational Change Management*, 19(6), 747-752.

Hall, P. A. & Taylor, R. C. R. (1996). Political Science and the Three New Institutionalisms. *MPIfG Discussion Paper,* Koeln: Max-Planck-Institut fuer Gesellschaftsforschung.

Hambrick D. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. *Academy of Management Journal,* 26(1), 5–26.

Hambrick, D. & Mason, P. A., (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review,* 9, 193-206.

Hastie, R. (2001). Problems for Judgement and decision making. *Annual Review Psychology,* 52, 653-683.

He, H. & Baruch, Y. (2009). Transforming organizational identity under institutional change. *Journal of Organizational Change Management*, 22(6), 575-599.

Heider, F. (1958). *The psychology of interpersonal relations.* New York: Wiley.

Hendry, J. (2000). Strategic decision making, discourse, and strategy as social practice. *The Journal of Management Studies*, 37, 955-977.

Heuer, F. & Reisberg, D. (1992). Emotion, arousal, and memory for detail. In S.-A. Christianson (Ed.), *The handbook of emotion and memory: Research and theory*, 151-180, Hillsdale, NJ: Erlbaum.

Hirschman, A. O. (1977). *The passions and the interests: Political arguments for capitalism before its triumph*. Pinceton, NJ: Princeton University Press.

Hogarth, R. M. (2001). *Educating intuition.* Chicago: University of Chicago Press.

Hoskisson, R., Eden, L., Lau, C. & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal,* 43, 249-267.

Huff, A. S. & Reger, R. K. (1987). A Review of Strategic Process Research. *Journal of Management*, 13(2), 211-236.

Iacob, G. & Gavrilovici, O. (2006). Romania and the Western World from the 1800s. *Journal of Organizational Change Management*, 19 (6), 696-703.

Iederan (Fodor), O. C., Curşeu, P. L., Vermeulen, P. A. & Geurts, J. L. A. (2011). Cognitive representations of institutional change: Similarities and dissimilarities in the cognitive schema of entrepreneurs. *Journal of Organizational Change Management*, 24, 1, 9-28.

Iederan (Fodor), O. C., Curşeu, P. L. & Vermeulen, P. A. (2008). Effective Decision-Making: The Role of Cognitive Complexity in Strategic Decisions. *Studia Psychologica*, 51(4), 293-304

Ingram P, Silverman B. (2002). Introduction. In *The New Institutionalism in Strategic Management (Advances in Strategic Management) (Vol. 19)*, Ingram P, Silverman BS (eds). JAI Press: Greenwich, CT; 1–30.

Isen, A. M. (1984). Toward understanding the role of affect in cognition. In R. Wyer & T. Srull (Ecls.), *Handbook of social cognition* (pp. 179-236). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Isen, A. M. (1987). Positive affect, cognitive processes, and social behavior. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, 20, 203-253. San Diego, CA: Academic Press.

Isen, A. M. (1993). Positive affect and decision making. In M. Lewisk & J. M. Haviland-Jones (Eds.), *Handbook of emotions***,** 261–277. Chichester, UK: Wiley.

Isen, A. M. (1999). Positive affect. In T. Dagleish & M. J. Power (Eds.), *Handbook of cognition and emotions,* 521–539. Chichester, UK: Wiley.

Isen, A. M. (2002). Missing in action in the AIM: Positive affect's facilitation of cognitive flexibility, innovation, and problem solving. *Psychological Inquiry,* 13, 57–65.

Isen, A. M., & Baron, R. A. (1991). Positive affect as a factor in organizational behavior. In L. L. Cummings & B. Staw (Eds.), *Research in organizational behavior* (Vol. 13, pp. 1-53). Greenwich, CT: JAI Press.

Isen, A. M., & Labroo, A. A. (2003). Some ways in which positive affect facilitates decision making and judgment. In S. Schneider & J. Shanteau (Eds.), *Emerging perspectives on judgment and decision research,* 365–393. New York: Cambridge University Press.

Isen, A. M., Nygren, T. E., & Ashby, F. G. (1988). Influence of positive affect on the subjective utility of gains and losses: It is just not worth the risk. *Journal of Personality and Social Psychology*, 55, 710-717.

Jackson, S. & Dutton, J. (1988). Discerning threats and opportunities. *Administrative Science Quarterly,* 33, 370-387.

Janis, I. & Mann, L. (1977). *Decision making: A psychological analysis of conflict, choice and commitment*. New York: Free Press.

Johnson, S. (2005). *Everything bad is good for you*. New York: Riverhead Books.

Johnson, E. J., & Tversky, A. (1983). Affect, generalization, and the perception of risk. *Journal of Personality and Social Psychology*, 45, 20-31.

Kahneman, D. (2003). A perspective on judgment and choice. *American Psychologist***,** 58, 697–720.

Kahneman, D., & Tversky; A. (1982). The psychology of preferences. *Scientific American, 246,* 162-170.

Kelley, H. H. (1973). The process of causal attribution. *American Psychologist,* 28, 107-128.

Kirton, M. J. (1981). A reanalysis of two scales of tolerance for ambiguity. *Journal of Personality Assessment*, 45, 407-414.

Klein, G. (2003). *Intuition at work.* New York: Doubleday.

Kostera, M. (1995). The modern crusade: Missionaries of management come to Eastern Europe. *Management Learning,* 26 (3), 331-352.

Kováčová, E. & Sarmány-Schuller, I. (2008). Influence of the level of selected self system components on decision-making in the experimental PDG situation. *Studia Psychologica*, 50(1), 11-30.

Krackhardt, D. (1990). Assessing the political landscape: Structure, cognition, and power in organizations. *Administrative Science Quarterly*, 35, 342-369.

Kruglanski, A. W. (1989). The psychology of being "right": On the problem of accuracy in social perception and cognition. *Psychological Bulletin,* 106, 395-409.

Kunreuther, H., Meyer, R., Zeckhauser, R., Slovic, P., Schwartz, B., Schade, C., Luce, M. F., Lippman, S., Krantz, D., Kahn, B. & Hogarth, R. (2002). High Stakes Decision Making: Normative, Descriptive and Prescriptive Considerations. *Marketing Letters,* 13, 259-268.

Lang, J. R., Dittrich, J. E. & White, S. E. (1978). Managerial problem solving models: A review and a proposal. *Academy of Management Review*, 3, 854-866.

Lawson, C., & MacLeod, C. (1999). Depression and the interpretation of ambiguity. *Behaviour Research and Therapy*, 37, 463-474.

LaBar, K. S., Gatenby, J. C., Gore, J. C., LeDoux, J. E. & Phelps, E. A. (1998). Human amygdala activation during conditioned fear acquisition and extinction: a mixed-trial fMRI study. *Neuron*, 20, 937-945.

Lazarus, R. S. (1968). Emotions and adaptation: Conceptual and empirical relations. In W J. Arnold (Ed.), *Nebraska Symposium on Motivation* (pp. 175-266). Lincoln, NE: University of Nebraska Press.

Lazarus, R. S. & Eriksen, C. W. (1952). Effects of failure stress upon skilled performance. *Journal of Experimental Psychology*, 43, 100-105.

Leone, C. & Dalton, C. H. (1988). Some effects of the need for cognition on course grades. *Perceptual and Social Psychology*, 46, 1349-1364.

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgement and choice. *Cognition and Emotion*, 14, 473-493.

Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology*, 81(1), 146–159.

Lerner, J. S., Gonzalez, R. M., Small, D. A., & Fischhoff, B. (2003). Effects of fear and anger on perceived risks of terrorism: A national field experiment. *Psychological Science*, 14, 144-150.

Levine, L. J. & Pizarro, D. A. (2004). Emotion and memory search: A grumpy overview. *Social Cognition*, 22(5), 530-554.

Lewicki, P. (1985). Nonconscious biasing effects of single instances of subsequent judgments. *Journal of Personality and Social Psychology*, 48, 563-574.

Logan, G. D. (1988). Toward an instance theory of automatization. *Psychological Review*, 95, 492-527.

Lopes, L. L. & Oden, G. G. (1998). The role of aspiration level in risky choice: A comparison of cumulative prospect theory and SP/A theory. Paper presented at the Society fir Judgement and Decision Making, Dallas, TX.

Lord, R.G. & K.J. Maher (1990), Alternative information-processing models and their implications for theory, research and practice, *Academy of Management Review*, 15 (1), 9-28.

Lorsch, J. W. & Morse, J. J. (1974). *Organizations and their members: A contingency approach*. New York: Harper and Row.

Lowenstein, G. & Lerner, J. S. (2003). The role of affect in decision making. In R. Davidson, H. Goldsmith, & K. Scherer (Eds.), *Handbook of affective science,* (pp. 619-642). Oxford, United Kingdom: Oxford University Press.

Luce, M., Bettman, J., & Payne, J.W. (1997). Choice processing in emotionally difficult decisions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 23, 384-405.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin,* 131, 803–855.

Mackie, D. M., & Worth, L. T. (1989). Cognitive deficits and the mediation of positive affect in persuasion. *Journal of Personality and Social Psychology,* 57*,* 27-4.

Magala, S. (1992). Movementization of social change. In Misztal, B. and Shupe, A. (Eds.), *Religion and Politics in Comparative Perspective,* Praeger, Westport – London, pp. 176-192.

Mahnke, V., Venzin, M. & Zahra, S.A. (2007). Governing entrepreneurial opportunity recognition in MNEs: aligning interests and cognition under uncertainty. *Journal of Management Studies*, 44, 1278-1298.

Manu, F.A. & Sriram, V. (1996). Innovation, marketing strategy, environment and performance, *Journal of Business Research,* 35, 79-91.

March, J. G. & Simon, H. A. (1958). *Organizations.* Oxford: John Wiley.

Markman, G. D., Balkin, D. B. & Baron, R. A. (2002). Inventors and new venture formation: The effects of general self-efficacy and regretful thinking. *Entrepreneurship Theory and Practice,* 27, 149-166.

Martin, L. L., Ward, D. W., Achee, J. W., & Wyer, R. S. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of Personality and Social Psychology*, 64, 317-326.

Martin, L. L., Seta, J. J., & Crelia, R. A. (1990). Assimilation and contrast as a function of people's willingness and ability to expend effort in forming an impression. *Journal of Personality and Social Psychology*, 59, 27-37.

Mayer, J. D., Gaschke, Y. N., Braverman, D. L., & Evans, T. W. (1992). Mood-congruent judgment is a general effect. *Journal of Personality and Social Psychology*, 63, 119-132.

Mayer, R. & Wittrock, M. (1996). Problem-solving transfer. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 47–62). New York: Macmillan Library References.

Meier, K. J., O'Toole, L. J., Boyne, G. A. & Walker, R. M. (2007). Strategic Management and the Performance of Public Organizations: Testing Venerable Ideas against Recent Theories. *Journal of Public Administration Research* and Theory, 17 (3), 357-378.

Mellers, B. A., Schwartz, A., Ho, K. & Ritov, I. (1997). Decision affect theory: Emotional reactions to the outcomes of risky options. *Psychological Science*, 8(6), 423-429.

Melton, R. J. (1995). The role of positive affect in syllogism performance. *Personality & Social Psychology Bulletin*, 21, 788-794.

Meyer, K. E., Estrin, K., Bhaumik, S. K. & Peng, M. W. (2009). Institutions, resources and entry strategies in emerging economies. *Strategic Management Journal*, 30, 61-80.

Meyer, J.W. & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology,* 83(2), 340-363.

Mezias, S. J. (1990). The institutional model of organizational practice: Financial reporting at the Fortune 200. *Administrative Science Quarterly,* 44, 653-684.

Miclea, M. (2003). *Psihologie cognitiva – Modele teoretico-experimentale*, Polirom, Iasi.

Milburn, T. W., Schuler, R. S. & Watman, K. H. (1983a). Organizational crisis part 1: Definition and conceptualization. *Human Relations*, 36, 1141-1160.

Milburn, T. W., Schuler, R. S. & Watman, K. H. (1983b). Organizational crisis part 2: Strategies and responses. *Human Relations*, 36, 1161-1180.

Miller, D., Kets de Vries, M. F. R. & Toulouse, J. M. (1982). Top executive locus of control and its relationship to strategy making, structure, and environment. *Academy of Management Journal,* 25, 237-253.

Miles, R. E. & Snow, C. C. (1978). *Organizational Strategy, Structure, and Process*, McGraw-Hill, New York, 1978.

Mintzberg, H., Raisinghani, D. & Theoret, A. (1976). The Structure of Unstructured Decision Processes. *Administrative Science Quarterly,* 21, 246-275.

Mintzberg, H. & Waters, J. (1982). Tracking strategy in an entrepreneurial firm. Academy *of Management Journal*, 25, 465-499.

Mogg, K., Bradley, B. P., De Bono, J. & Painter, M. (1997). Time Course of Attentional Bias for Threat Information in Non-clinical Anxiety, *Behaviour Research and Therapy*. 35, 297-303

Neisser, U. (1967). Cognitive psychology. Englewood Cliffs, NJ: Prentice-Hall.

Newman, K. (2000). Organizational transformation during institutional upheaval. *Academy of Management Review*, 25, 602-619.

Norton, R. W. (1975). Measurement of ambiguity tolerance. *Journal of Personality Assessment*, 39, 607-619.

Nutt, P. C. (1984). Types of organizational decision processes. *Administrative Science Quarterly*, 29, 414-450.

Nygaard, L. C., & Lunders, E. R. (2002). Resolution of lexical ambiguity by emotional tone of voice. *Memory & Cognition*, 30, 583-593.

Oaksford, M., Morris, F., Grainger, B., & Williams, J. M. G. (1996). Mood, reasoning, and central executive processes. *Journal of Experimental Psychology: Learning, Memory. and Cognition*, 22, 476-492.

OECD (2005). Entrepreneurship Centre Takes Off, *The OECD Observer*, 245.

Ohman A, Flykt A, Esteves F. (2001). Emotion drives attention: detecting the snake in the grass. *Journal of Experimental Psychology General*, 130 (3), 466–478.

Oliver, C. (1992). The antecedents of deinstitutionalization. *Organizational Studies*, 13, 565 – 588

Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*, 88, 680-693.

O'Reilly III, C. A. & Chatman, J. A. (1994). Working smarter and harder: A longitudinal study of managerial success. *Administrative Science Quarterly*, 39, 603-627.

Palermo, D. S. (1957). Proactive interference and facilitation as a function of amount of training and stress. *Journal of Experimental Psychology*, 53, 293-296.

Palich, L. E. & Bagby, D. R. (1995). Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom. *Journal of Business Venturing,* 10, 425-438.

Pallak, M. S., Pittman, T. S., Heller, J. F. & Munson, P. (1975). The effects of practice and irrelevant stress on Stroop Color-Noun Task Perform-ance. *Bulletin of the Psychonomic Society*, 6, 248-250.

Peklaj, C., Žagar, D., Pečjak, S. & Puklek Levpušček, M. (2006). Motivation and self-efficacy in students attending heterogeneous and ability-grouped classes. *Studia Psychologica*, 48(4), 333-347.

Peng, M. W. (2003). Institutions, institutional change and economic performance. *Academy of Management Review*, 28, 275–296.

Petty, R. E., & Cacioppo, J. T. (1981). Attitudes and persuasion: Classic and contemporary approaches. Dubuque, IA: Brown.

Petty, R. E., & Cacioppo, J. T. (1986). Communication and persuasion: Central and peripheral routes to attitude change. New York: Springer-Verlag.

Porac, J. F. & Thomas, H. (1990). Taxonomic mental models in competitor definition. *Academy of Management Review*, 15, 224-240.

Powell, W.W. & Colyvas, J.A. (2008). Microfoundations of Institutional Theory. In Greenwood, R., Oliver, C., Sahlin, K. and Suddaby R. (Eds), The *Sage Handbook of Organizational Institutionalism*. Sage, London, pp. 276-298.

Priester, J. & Petty, R. (1996). The gradual threshold model of ambivalence: Relating the positive and negative bases of attitudes to subject ambivalence. *Journal of Personality and Social Psychology*, 71, 431-449.

Rajagopalan, N., Rasheed, A. M. A. & Datta, D. D. (1993). Strategic decision processes: Critical review and future processes. *Journal of Management*, 19, 2, 349-384.

Raphael, T. D. (1982). Integrative Complexity Theory and forecasting international crises. *Journal of Conflict Resolution*, 26, 423-450.

Revelle, W. & Loftus, D. A. (1990). Individual differences and arousal: Implications for the study of mood and memory. *Cognition and Emotion*, 4, 209-237.

Rice, G. H. & Hamilton, R. E. (1979). Decision Theory and the Small Businessman. *American Journal of Small Business*, 4, 1.

Richetin, J., Perugini, M., Adjali, I., & Hurling, R. (2007). The moderator role of intuitive versus deliberative decision making for the predictive validity of implicit and explicit measures. *European Journal of Personality*, 21, 529–546.

Rinck, M., Glowalla, U. & Schneider, K. (1992). Mood-congruent and mood-incongruent learning. *Memory and Cognition*, 20, 29-39.

Robinson, R. B. & Pearce, J. A. (1983). The impact of formalized strategic planning on financial performance in small organizations. *Strategic Management Journal,* 4, 197-207.

Rosch, E. (1975). Cognitive reference points. *Cognitive Psychology*, 1, 532-547.

Roseman, I. J., Spindel, M. S. & Jose, P. E. (1990). Appraisal of Emotion-Eliciting Events: Testing a Theory of Discrete Emotions. *Journal of Personality and Social Psychology*, 59(5), 899-915.

Ross, B. & Murphy, G. (1996). Category-based prediction: Influence of uncertainty and feature associations. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 22, 736-753.

Ruisel, I. (2004). Cognitive fallacies as barriers to thinking. *Studia Psychologica*, 46(4), 327-333

Russell, J. A. (1978). Evidence of Convergent Validity on the Dimensions of Affect. *Journal of Personality and Social Psychology,* 36, 1152–1168.

Sarmány-Schuller, I. (1998). Category width cognitive style and decision-making processes. *Studia Psychologica*, 40(4), 250-254.

Sarmány-Schuller, I. (1999). Procrastination, need for cognition and sensation seeking. *Studia Psychologica*, 41(1), 73-85.

Sarmány-Schuller, I. & Simuth, J. (2006). Impact of students' cognitive style characteristics on the perception of barriers in online education. *Studia Psychologica*, 48(3), 265-272.

Schachter, S. & Singer, J. (1962). Cognitive, Social and Physiological Determinants of Emotional States. *Psychological Review,* 69, 379–399.

Scherer, K. R. (1988). Criteria for emotion-antecedent appraisal: A review. In Y Hamilton, G. H. Bower, & N. H. Frijda (Eds.), *Cognitive perspectives on emotion and motivation* (pp. 89-126). Norwell, MA: Kluwer Academic.

Shane, S & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, 217 – 226.

Sieck, W. & Yates, J. F. (1997). Exposition effects on decision making: choice and confidence in choice. Organizational Behaviour and Human Decision Process, 70, 207-219.

Scherbaum, C. A., Cohen-Charash, Y. & Kern, M. J. (2006). Measuring general self-efficacy. A comparison of three measures using Item Response Theory. *Educational and Psychological Measurement*, 66, 1047-1063.

Scherer, R. F., Maddux, J. F., Vlercandante, B., Prentice-Dunn, S., Jacobs, E. & Rogers, R. W. (1982). The self-efficacy scale : Construction and validation. *Psychological Reports*. 51, 663- 671.

Schoemaker, P. J. H. (1993). Strategic decisions in organizations: Rational and behavioural Views. *Journal of Management Studies*, 30, 107-129.

Schröder, H., Driver, M. & Streufert, S. (1967). *Human information processing*. New York: Holt, Rinehart & Winston.

Schunk, D., & Betsch, C. (2006). Explaining heterogeneity in utility functions by individual preferences for intuition and deliberation. Journal of Economic Psychology, 27, 386–401.

Schwarz, N. (2002). Feelings as information: moods influence judgment and processing strategies. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 534–547). New York: Cambridge University Press.

Schwarz, N. (2000). Emotion, cognition and decsision making. *Cognition and Emotion*, 14(4), 433-440.

Schwarz, N., Bless, H. & Bohner, G. (1991). Mood and persuasion: Affective states influence the processing of persuasive communications. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 24, pp. 161-197). New York: Academic Press.

Schwarz, N., & Clore, G.L. (1996). Feelings and phenomenal experiences. In E.T. Higgins & A. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 433-465), New York: Guilford.

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution and judgments of well-being: informative and directive functions of affective states. *Journal of Personality & Social Psychology*, 45, 513–523.

Schwenk, C. R. (1988). The Cognitive Perspective on Strategic Decision-Making. *Journal of Management Studies*, 25(1), 41-56.

Scott, W.R. (2001). *Institutions and Organizations*, (2nd ed.). Thousand Oaks, CA: Sage.

Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement*, 55, 818–831.

Seo, M. &Barret, L. F. (2007). Being emotional during decision-making – good or bad? An empirical investigation. *Academy of Management Journal*, 50, 923-940.

Shafir, E. & LeBoeuf, R. A. (2002). Rationality. *Annual Review of Psychology*, 53, 491-517.

Simon, H. A. (1996). *The sciences of the artificial* (3rd ed.). Cambridge, MA: MIT Press.

Simon, H. A. (1971). Designing organizations for an information rich world. In M. Greenberger (Ed.), *Computers, communications and public interest* (pp 37-72), Baltimore, Johns Hopkins University Press.

Simon, H. A. (1957). *Administrative behavior*. New York Free Press.

Simon, H. A. (1957). *Models of man.* New York: John Wiley.

Sitkin, S. B. & Sutcliffe, K. M. (1991). Dispensing legitimacy: Professional, organizational and legal influences on pharmacist behavior. In P. Tolbert & S. Barley (Eds.), *Research in the sociology of organizations*, 8, 269-295. Greenwich, CT: JAI Press.

Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological Bulletin,* 119, 3–22.

Slovic, P., Finucane, M., Peters, E., & MacGregor, D. G. (2002). The affect heuristic. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 397–420). Cambridge, England: Cambridge University Press.

Smith, E. R. & DeCoster, J. (2000). Dual-Process Models in Social and Cognitive Psychology: Conceptual Integration and Links to Underlying Memory Systems. Personality & Social Psychology Review, 4(2)

Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, 48(4), 813–838.

Smock, C. D. (1955). The influence of stress on the perception of incongruity. *Journal of Abnormal Social Psychology*, 50, 354-356.

Snow, C.C. & Hambrick, D.C. (1980). Measuring organizational strategies: Some theoretical and methodological problems. *Academy of Management Review,* 5 (4), 527-538.

Snow, C. C. & Hrebiniak, L. G. (1980). Strategy, distinctive competence and organizational performance, *Administrative Science Quarterly,* 25, 317–335.

Snyder, M. & White, P. (1982). Moods and memories: Elation, depression and the remembering of the events of one's life. *Journal of Personality*, 50, 149-167.

Sollár, T. (2008). Need for structure from a theoretical and methodological perspective. *Studia Psychologica*, 50(3), 277-289.

Solomon, R. C. (1993). *The passions*. Indianapolis: Hackett.

Spicer, A., McDermott, G., & Kogut, B. (2000). Entrepreneurship and privatization in Central Europe: The tenuous balance between destruction and creation. *Academy of Management Review,* 25, 630–649.

Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate? *Behavioral and Brain Sciences,* 23, 645–665.

Staw, B. M., & Barsade, S. G. 1993. Affect and managerial performance: A test of the sadder-but-wiser vs. happier-and-smarter hypothesis. *Administrative Science Quarterly,* 38, 304–331.

Staw, B. M., Sandelands, L. & Dutton, J. E. (1981). Threat-rigidity cycles in organizational behavior. A multilevel analysis. *Administrative Science Quarterly*, 26(4), 501-524.

Streufert, S. & Streufert, S. C. (1978). *Behaviour in the complex environment*. New York: Wiley.

Streufert, S. & Swezey, R. W. (1986). *Complexity, managers and organizations*. New York: Academic Press.

Takemura, K. (1994). Influence of elaboration on the framing of decisions. *Journal of Psychology*, 128, 33-39.

Teoh, H. Y. & Foo, S. L. (1997). Moderating effects of tolerance for ambiguity and risk taking propensity on the role conflict-perceived performance relationship: Evidence from Singaporean entrepreneurs. *Journal of Business Venturing*, 12, 67-81.

Thelen, K. (1999). Historical Institutionalism in Comparative Politics. *American Review of Political Science*, 369-404.

Thomas, J., Clark, S., & Gioia, D. (1993). Strategic sensemaking and organizational performance: Linkages among scanning, interpretation, action, and outcomes. *Academy of Management Journal,* 36, 239–270.

Thomson, J. L. (2001). *Strategic Management*, 4th ed. London: Thomson-Learning.

Thorne, P. (1986). Management style: Can you change your will? *International Management*, 41, 62.

Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, 81, 973-988.

Townsend, D. M. & Hart, T. A. (2008). Perceived Institutional Ambiguity and the Choice of Organizational Form in Social Entrepreneurial Ventures. In *Entrepreneurship: Theory and Practice*, Baylor University, 685-700.

Tripodi, T. & Bieri, J. (1964). Informtion transmission in clinical judgeents as a function of stimulus dimensionality and cognitive complexity. *Journal of Personality*, 32, 119-137.

Trope, Y. & Gaunt, R. (1999). A dual-process model of overconfident attributional inferences. In Chaiken, S. & Trope, Y (Eds.), Dual-Process Theories in Social Psychology, Guilford: New York.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science,* 211(30), 453-458.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science,* 185, 1124–1131.

Ucros, C. G. (1989). Mood state-dependent memory: A meta-analysis. *Cognition and emotion*, 3, 139-167.

VanDeventer, S. S. & White, J. A. (2002). Expert behavior in children's video game play. *Simulation and Gaming*, 33(1), 28-48.

Vuilleumier, P., Armony, J.L., Driver, J., & Dolan, R.J. (2001). Effects of attention and emotion on face processing in the human brain: an event-related fMRI study. *Neuron*, 30(3), 829-841.

Walsh, J. P. (1995). Managerial and organizational cognition: notes from a trip down memory lane. *Organization Science*, 6, 280-321.

Watson, D. & Tellegen, A. (1985). Toward a Consensual Structure of Mood. *Psychological Bulletin,* 98, 219–235.

Weber, R. P. (1990). *Basic content analysis, second edition*. Newbury Park, CA: Sage Publications.

Wegener, D. T., Petty, R. E., & Smith, S. M. (1995). Positive mood can increase or decrease message scrutiny: The hedonic contingency view of mood and message processing. *Journal of Personality and Social Psychology*, 69, 5-15.

Weick, K. E. (1979). *The Social Psychology of Organizing*, 2nd ed. Reading, MA: MIT Press.

Weiss, H. M. (2002). Deconstructing job satisfaction: Separating evaluations, beliefs, and affective experiences. *Human Resource Management Review***,** 12, 173–194.

Weiss, H.M. & Cropanzano, R. (1996). Affective Events Theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research into Organizational Behavior*, 18 (1), 1-74.

Widman, K. F. & Thomson, J. S. (2003). 'On specifying the null model for incremental fit indices in structural equation modeling'. *Psychological Methods*, 8, 16-37.

Wood, R. & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 14, 361-384.

Worth, L. T, *&* Mackie, D. M. (1987). Cognitive mediation of positive affect in persuasion. *Social Cognition,* 5, 76-94.

Wyman, B. G. & Randel, J. M. (1998). The relation of knowledge organization to performance of a complex cognitive task. *Applied Cognitive Psychology*, 12, 251-264.

Zajonc, R. (1998). Emotions. In D. Gilbert, S. Fiske & G. Linzey (Eds.), *Handbook of social psychology*, 1. 591-632. New York: Oxford University Press.

Zajonc, R. B. (1965). Social facilitation. *Science*, 149: 269-274.

Zeelenberg, M., Nelissen, R.M.A., Breugelmans, S.M., & Pieters, R. (2008). On emotion specificity in decision making: Why feeling is for doing. *Judgment and Decision making*, *3*(1), 18-27

Zelenski, J. M., & Larsen, R. J. (2002). Predicting the future: How affect-related personality traits influence likelihood judgments of future events. *Personality and Social Psychology Bulletin*, 28, 1000-1010.

Zhou, K. Z., Li, C. B. (2007). How does strategic orientation matter in Chinese firms. *Asia Pacific Journal of Management*, 24(4), 447–66.

Zilber, T.B. (2002). Institutionalization as an interplay between actions, meanings and actors: The case of a rape crisis center in Israel. *Academy of Management Journal*, 45(1), 234-254.

Zilber, T. B. (2008). The Work of Meanings in Institutional Processes and Thinking. In Greenwood, R., Oliver, C., Suddaby, R. and Sahlin-Andersson, K. (Eds.), The Sage handbook of Organizational Institutionalism, Sage publications, London, pp. 151-169.

Zucker, L.G. (1977). The role of institutionalization in cultural persistence. *American Sociological Review*, 42 (5), 726-743.

Zucker, L. G. (1987). Institutional Theories of Organization. *Annual Review of Sociology,* 13, 443-464.

Zweynert, J., & Goldschmidt, N. (2006). The two transitions in Central and Eastern Europe as processes of institutional transplantation. *Journal of Economic Issues,* 40(4), 895-918.

SUMMARY

Drawing upon the dual model of information processing, the thesis aims to explore the interplay among cognition, emotion and motivation during strategic decision-making – a critical process for the SMEs' economic success.

While much research has so far contributed to understanding relevant aspects related to the content and process of decision making, it brings very specific and sometimes highly disparate inputs on different aspects of decision making. Moreover, a central piece to the process and outputs of decision making – namely the decision maker – was so far neglected in terms of developing a consistent and coherent model of his influence on this cognitive demarche. As such, my first objective was concerned with going beyond macro-level decision making models and integrating in a coherent framework some of the most relevant affective, cognitive and motivational factors pertaining to the decision maker. The pragmatic argument supporting this research referred to the existence of relatively few findings regarding decision making in SMEs. Yet still, SMEs are the engine of economic growth in many worldwide economies and strategic decisions affect both their performance and survival on the market. Thus, my second objective was to reveal the underlying mechanisms involved in a highly consequential type of decision making – the strategic one, performed by a specific type of decision makers – the entrepreneurs, in a particularly relevant type of organization – the SME

Four different research projects were designed and carried out to achieve this goal. The first chapter intended to develop an integrative framework on strategic decision making and explore

the way cognitive factors, affective states and dispositional variables related to the individual's motivation interact and influence the decision process and its outputs. A special focus was directed though towards the type of representation elaborated during the process – as a cognitive factor, towards need for cognition, tolerance for ambiguity and self efficacy – as the motivational factors and to several discrete emotions such as: sadness, fear, worry, anger, contentment and disgust. While previous research has provided disparate results regarding their impact, we aimed to integrate such empirical findings within a coherent model of decision making that builds upon the dual model of information processing.

The second chapter of the thesis sought to explore the role of activated representations in the working memory of the individual within the decision making process. On a sample of Romanian SMEs entrepreneurs, it tested the mediating role of cognitive complexity in the relationship between a set of motivational attributes (self-efficacy, need for cognition and tolerance for ambiguity) and decision-making effectiveness.

The third chapter investigated the role of cognitive factors in explaining how exogenous institutional change impacts on organizational actions. The study integrated institutional theory with the work on cognition and explored how cognitive representations affect the relation between environmental pressures and organizational responses, as a result of strategic decision making processes.

Further on, the fourth chapter refined the concepts of opportunities and threats – as two representations that entrepreneurs build in relation with the environment. Extending the threat-rigidity hypothesis, the study tested the joint effect of opportunities and threats on the SMEs strategic orientations in a situation of macro institutional change.

The final chapter of the thesis summarizes all the relevant conclusions drawn by answering the research questions mentioned above and launches some ideas on how to bridge the gap between research on strategic decision making in SMEs and practice. Important hints about how to optimize the way SMEs entrepreneurs make strategic decisions are discussed.

APPENDIX

APPENDIX 1 – Summary of the most important results

	Propositions
CHAPTER 1 **Cognition, emotion and motivation in SDM – the 'good', the 'bad' and the 'ugly'**	**P1:** The relationship between the activation of Systems 1 and 2 and the decision efficiency is mediated by the complexity of the representations activated in the working memory.
	P1a: The activation of System 1 is beneficial for the decision efficiency when it leads to the activation of complex and domain specific schemas, compared to when it leads to the activation of oversimplified, domain-independent schemas.
	P1b: The activation of System 2 is positively related to the decision efficiency through the formation of complex and domain-relevant cognitive representations.
	P2: Individuals who frame the decision situation as an opportunity are more likely to engage in an automatic type of processing - System 1 (Figure 1 Chapter 1 – arrow 'c').
	P3a: The relationship between the threat framing and the activation of the controlled processing - System 2 is moderated by fear - a negative type of affect experienced at the time of the decision (Figure 1 Chapter 1 – arrow 'a2'+'d').
	P3b: The relationship between the threat framing and the activation of the automatic type of processing - System 1 is moderated by the situational demands such as time pressure (Figure 1 Chapter 1 – arrow 'b').
	P4a: Individuals experiencing positive or negative emotions related to a certainty appraisal are more likely to engage in an automatic type of processing - System 1 (Figure 1 Chapter 1 - arrow 'e').

	P4b: Individuals experiencing positive or negative emotions related to an uncertainty appraisal are more likely to engage in a controlled type of processing - System 2 (Figure 1 Chapter 1 - arrow 'd').
	P5: Need for cognition is positively associated with the activation of system 2 - the controlled style of processing (Figure 1 Chapter 1 - arrow 'f1') and negatively associated with the activation of system 1 - the automatic style of processing (Figure 1 Chapter 1 - arrow 'f2') when making a decision.
	P6: Tolerance for ambiguity is positively associated with the activation of system 1 - the automatic style of processing (Figure 1 Chapter 1 - arrow 'h1') and negatively associated with the activation of system 2 - the controlled style of processing (Figure 1 Chapter 1 - arrow 'h2') when making a decision.
	P7: Self efficacy is positively associated with the activation of system 2 - the controlled style of processing (Figure 1 Chapter 1 - arrow 'g1') and negatively associated with the activation of system 1 - the automatic style of processing (Figure 1 Chapter 1 - arrow 'g2') when making a decision.
	P8: Time pressure as a characteristic of the decision situation is positively associated with the activation of System 1 (Figure 1 Chapter 1 - arrow 'b').
	P9: Inquiring about the decision rationale is positively associated with the activation of System 2 (Figure 1 Chapter 1 - arrow 'j').

	Hypotheses	Results
CHAPTER 2 **Effective Decision Making: The Role of Cognitive Complexity in Strategic Decisions**	**H1**: Cognitive complexity has a positive impact on the effectiveness of strategic decisions.	H1 was fully supported by the data: the path coefficient depicted in Figure 2 Chapter 2 is positive and significant (.32). This means that entrepreneurs that have a more complex representation about the decisional situation evaluate the outcomes of the decision in a more positive way.
	H2: The positive impact of need for cognition on decision-making effectiveness is mediated by cognitive complexity.	H2 is fully supported by the data. As hypothesized, the impact of need for cognition on decisional effectiveness is not a direct one, but it is mediated by cognitive complexity. The positive and significant path coefficient (.19) shows that entrepreneurs high in need for cognition develop a more complex representation about the decisional situation, which in turn leads to higher decision effectiveness.
	H3: The positive impact of self-efficacy on decision-making effectiveness is partially mediated by cognitive complexity.	H3 is supported by the data. Self-efficacy has a positive strong impact on decision effectiveness (.33) as well as an indirect effect mediated by cognitive complexity.
	H4: The negative impact of tolerance for ambiguity on decision-making effectiveness is	H4 is not supported by the data. The results of the path analysis depicted in Figure 2 Chapter 2 show that the

	mediated by cognitive complexity.	standardized path coefficient between tolerance for ambiguity and cognitive complexity is negative as hypothesized, yet not significant (-.08).
CHAPTER 3 **Cognitive Representations of Institutional Change: Similarities and Dissimilarities in the Cognitive Schema of Entrepreneurs**	**Findings**	
	Similarities and Differences in Individual Cognitive Maps before the EU Integration	**Similarities:** ▪ most of the strategic decisions before the IC were triggered by two types of causes: ➢ the entry of new competitors on the market with similar or better products and/or services; and ➢ the desire of the entrepreneur to increase the company profit or revenue mainly for later personal benefits and secondary for organizational development purposes ▪ most of the interviewees perceived the Government's actions as a threat due to the lack of transparency and bureaucracy in implementing the EU

		norms and regulations **Dissimilarities** ▪ the EU integration does not appear explicitly in all of the interviews upon SDM processes ▪ when mentioned, the EU integration was perceived differently: ➢ most of the interviewees perceived Romania's EU ascension as a threat, due to the expected negative impact upon the economical situation and position on the market of the SME ➢ few respondents perceived EU ascension as an opportunity due to the potential access to success models
	Similarities and Differences in the Individual Cognitive Maps after the EU Integration	**Similarities:** ▪ all interviewees mention explicitly the EU integration as a contextual factor related to the SDM ▪ the EU integration is more prominent in the cognitive maps after the IC; it is described by an increased number of concepts and

		links ▪ one of the threats agreed upon to have been brought by the EU integration is the exodus of qualified work force into the EU countries ▪ there is an agreement concerning the changes brought by the EU integration: ➢ market globalization ➢ entry of foreign competitors on the local market ➢ the need of the local SMEs to gain a competitive advantage in order to face the increased competition ➢ increased normative pressure **Dissimilarities:** ▪ the perceived impact of the EU integration upon the SMEs is largely dependent upon the industry the firm is operating in: ➢ in HR consultancy there is a consensus that the EU integration brought significant changes in the market: increased competitiveness due to the penetration of

		external players on the local market and in the same time new potential customers ➢ in commerce, especially in restaurant businesses, the EU integration is conceptualized as a menace and a potential cause of bankruptcy since the SMEs active in this field are small players that lack the financial power to make adequate investments requested by the adoption of European norms
	Aggregated Cognitive Maps Before versus After the IC	▪ the institutional change is part of the explicit entrepreneurial cognition in both groups: the ones who made decisions before versus after the EU integration ▪ the group that was interviewed before the integration represented it mainly as a threat and major risk for their strategic choices, while the interviewees of the second group perceive it both as a threat as well as an opportunity

		▪ the institutional change is much more salient after the integration took place. The interviewees described it by more concepts and more links connect it to the strategic decision making process ▪ interviewees in the pre-integration group varied dramatically in their representations., ranging from threat, potential problem or cause for future problems, to a possible opportunity for development, or just an uncertain future due to the lack of information of what the integration will mean for SMEs ▪ the richness of cognitive schemas about the institutional change seems to be positively associated with the decisional outcomes. Entrepreneurs who had a clear and detailed representation of the changes brought by the integration also tended to conceptualize it as an opportunity for the development of their lines of business.

	Hypotheses	Results
CHAPTER 4 **Opportunities and Threats in an Institutional Change Setting: the Impact on Strategic Types of SMEs**	**H**: Perceived threats moderate the impact of perceived opportunities on SMEs strategic orientation in such a way that perceived threats increase the positive association between perceived opportunities and the prospector strategic orientation, as well as the negative association between the perceived opportunities and defender strategic orientation.	The hypothesis is fully supported by data. The cross product terms of perceived opportunities and perceived threats associated with the institutional change is significant for prospector strategic style (β=.50, p<.05), defender strategic style (β=-.53, p<.05) and inertia (β=-.60, p<.01), indicating the importance of the interplay between perceived threats and opportunities in predicting the strategic orientation of the SME. The entrepreneurs operating in a dynamic environment who perceived high levels of opportunities are more likely to employ a *prospector* strategy and show a non-isomorphic behavior. This propensity increased with the associated perception of threats. Since the prior routines might not be appropriate under the new conditions (e.g. the existence of opportunities that can be taken advantage of) and in order to optimally respond to the new environmental pressures (e.g. threats pointing out to major environmental

		changes) and achieve performance, the prospectors will make strategic decisions that promote new, unprecedented courses of action On the other hand, the entrepreneurs who perceive the environment as including low levels of opportunities are likely to promote an isomorphic way of dealing with strategic issues and act in a *defender* style. This propensity increased with the associated perception of threats. Since the perceived low level of opportunities might be interpreted as a clue for the validity of the old legitimate ways, the defenders might try to preserve their status-quo by making strategic decisions that promote previously well-learned routines, already proven in terms of efficacy.

APPENDIX 2 – Scales used in the study described in Chapter 2

NFC Scale, Cacioppo and Petty (1982) – 7 items

In my work...

1. I think about small, daily projects rather than long-term ones*
2. I often have tasks that involve coming up with new solutions to everyday problems
3. I often indulge in abstract thinking
4. I'm content if a job gets done; I don't care about the how's and why's*
5. I usually end up deliberating about issues even when they do not affect me personally
6. I ponder, even about routine tasks
7. I let things happen rather than try to understand why they turned out that way*

SE Scale, Chen, Gully & Eden (2001) – 6 items

Regarding our industry and my firm, I generally feel that...

1. Becoming successful is a matter of hard work; luck has little or nothing to do with it
2. For the most part, my firm's success is controlled by forces too complex to understand or control*
3. I have difficulty influencing what happens inside my firm*
4. It is unwise to draw up strategic plans. Many things are beyond the firm's control any how*
5. When I make plans for my firm, I am almost certain to make them work
6. I can learn almost anything if I set my mind to it

TA Scale, Lorsch and Morse (1974)

Regarding our industry and my firm, I generally feel that...

1. I enjoy working in rapidly changing market conditions
2. Uncertainty around my firm reduces my ability to do my best as CEO*
3. I often get annoyed when unforeseen events upset my planning*
4. I like challenges that come from uncertain market conditions

*These items were reverse-scored before conducting the analysis.

APPENDIX 3 – Interview protocol used in the studies described in Chapters 2 and 3

Pre-selection questions:

1. Is the company you work in a SME?

2. Who is/Are you in charge with making important decisions within your firm?

3. Have you made a strategic decision in the past three years?

Main interview:

1. Can you give a short description of the company you work in?
    - How is it structured?
    - How many employees does it have?
    - What is the main field of activity for the firm?

2. How would you describe your role within the company?
    - What are your responsibilities?

3. Can you describe the most important decision you made in the last three years, with the most significant consequences for your firm?
    - Why do you consider this decision as being important, strategic?

4. What were the factors that determined you to make this decision?
    - How did this idea occur to you?
    - How long ago did you have the first ideas regarding the decision?
    - Is there someone who influenced you in making this decision?
    - Did you also consider other alternatives?

5. How was your decision put into practice?
    - When did you actually make the decision?
    - What was the first thing you did after having decided?
    - And then?

6. How do you look back at the decision you made?
    - What was the crucial moment in the decision in your opinion?
    - What difficulties have you encountered?
    - Did you have any doubts about the decision?
    - What kind of risks did you face?
    - What results have you obtained?

7. Did the external environment play a role in your decision? Did governmental or legal issues influence the decision making process or its implementation in any way?

8. Were there also other important decisions you've made for the company in the past three years?

APPENDIX 4 – Interview transcript and step 1 in the content analysis: surfacing first order concepts and links (Fuglseth & Gronhaug, 2002), as performed in the studies described in Chapters 2 and 3

Can you give me a short description of the company you work in?

Well... the company is called IB Profocus and its field of activity is consultancy in the construction area. Basically we offer information about everything that is being built in Romania at this point. The information is summarized in several investment reports that clients receive by e-mail or fax according to the subscription they paid for.

- *Organization: IB Profocus*
- *Type of activity: consultancy in the construction field*

Could you tell me how is the company structured?

There are 2 entrepreneurs: me and my associate. We then have 5 employees. The company is basically structured on 2 core sides: the engine versus the administrative side. In the "engine" side we have the selling and marketing departments while in the administrative side we have the production and financial departments, contracts and so forth.

- *Structure: 2 managers; the 'engine' – sales and marketing; and the administrative side – production, financial and contracts*
- *5 employees*

How would you describe the culture of the company?

Well we rely a lot on trust, especially because we are at an early stage. The company is basically a start-up. We rely on formal relations as well but especially on the informal ones. Our employees are people that we used to know before starting the business and some of them are even our friends... so... the key word is trust... trust in each other, trust in the way we do our jobs. We also focus on quality... and this is really important... even if we need to work up till 1 o'clock at night... it matters only that the final product meets the requirements.

- *Culture: informal – based on trust and informal – based on quality*

How would you describe your role within the company?

Err... I'm the entrepreneur...

Can you describe the most important decision you

made in the last three years, with the most significant consequences for your firm?

- ***Decision: changing the selling strategy***

Well... for example one decision we've made was to introduce on the market a new type of service that we offer, meaning market research...which we haven't previously performed and we are still working on it... So we didn't have the launch yet... We've been working on it for about a month. Err... another important decision happened earlier this year when... Actually we made this decision by the end of the previous year and it concerned changing the selling strategy. The subscriptions I was previously telling you about meant that each 3, 6 or 12 month we would send clients the investment reports. So we sell information about what is currently being built in Romania. And we've decided to give up the 3 month subscription and only sell the 6 and the 12 months subscriptions. This is important for us because the clients make the payment for the subscriptions in advance, therefore, logically, more money would enter the firm for the 6 or 12 month subscriptions compared to the 3 month subscription. It turned out to be a good decision.

How did this idea occur to you? What has determined you to make this decision?

- *Decisional process starts when the idea occurs to the associate*

Basically, my associate had the idea. He said "let's see what happens if we give up the 3 month subscription and if the reaction is still positive". The idea arose because we already had a lot of clients who bought 12 month subscriptions. So they had already jumped the 6 month step.

- *Causes: some clients have preferred the new type of subscription from starters*

Were there any other factors that played a role in the decision you've made?

- *Causes: constraints imposed by the personal lives of the entrepreneurs*

Yes... I can say that our private lifestyles also played a role... because I was in the last year of college and I knew I wouldn't have too much time to invest in the business, in the selling process especially. And since the company is really small we had to choose an alternative that wouldn't require me to invest too much effort in

the selling part since I also had to take care of the administrative side.

And why do you consider this was an important decision?

It is important because first of all we can make more money in a shorter time frame and then because we can resell the service easier Why? Because on the one hand, with the clients that buy the 3 months subscription we have to call then at the end of that period and ask for feedback. Well, we used to ask for feedback also during the 3 month period, but still, at the end of that time we had to push harder and try to resell, to convince them to renew their subscription. This approach required much more selling effort compared to the 6 month subscriptions. Therefore, we decided to take it out from our services. And considering that the prices for the other subscriptions are not that expensive, we thought that our company-clients can afford it. Well we didn't rely that much on a market research for this information but we did rely on our experience in the field. We decided to see what was going to happen if we don't sell this product anymore.

- *Consequences: the selling process is easier than before*
- *Consequences: obtain more money, in a more rapid manner*

Did you have any doubts about the decision?

Yes, I definitely had some doubts because the 3 months subscription was also very popular on the market at first. Because customers used to think like this: "I wanna try the three months subscription to see how it works and if everything goes well I'll witch to a larger subscription". This is the customers' way of thinking and the feedback we have received from the market... And we were a bit scared when making the decision that if we withdraw this option we will end up loosing some customers.

- *Risks: loosing older customers*

Did you consider any alternatives to the decision?

Mmm... no alternatives.

How and where did you look for the necessary information regarding the decision?

Well... we got the decision related information from the

customers' feedback, as I've previously told you, but also from the talks we used to have with the prospects. We also collected some additional information from our collaborators – other companies that sell our products, or from the agents working for us and in direct contact with the market. We have also studied the competition and seen that they were selling only 6 and 12 months subscriptions. Well, our fees are more expensive than the competition but that is because we are way better than them so we have concluded that there is no point in keeping the 3 months subscription.

Was there someone who might have influenced you in making the decision?

In my opinion there was no one. Me and my associate made the decision. He had the original idea and we then decided together... All the important decisions for the firm we make them together.

- *Decision is the result of the associates' agreement – a joint process*

And when did this idea occur to you and when did you get to put it into practice?

We first had this idea pretty early I can say... around 2 or 3 months after we entered the market, meaning October or November 2005. It was then that we had the first ideas and we spent a lot of time analyzing it. We have waited for the feedback I was telling you about and finally, around December we made the decision and established to implement it starting from January 2006.

- *Decision was the associate's idea*
- *Decision made by consulting the employees*

What has determined you to develop this idea?

As I've said, an easier selling process for me, more time for me and the possibility to make more money in an easier manner.

What was the first thing you did in order to develop and put this idea into practice?

Well, the first thing I did was to have several discussions on this topic with my associate, our employees and our customers. We wanted to see how we can implement it and prepare all the specific materials such as price offers, the materials that are delivered at the same time with the subscription and so on.

- *Decision was implemented once the marketing materials were ready*

How attractive did this idea seem to you?

On a scale from 1 to 10? Attractive... really attractive.

- *Decision – perceived as very attractive by the associates*

How did you get to put your idea into practice? What were the steps?

Well, we've looked at the competition and noticed that they did not have in their offer the 3 months subscription we used to have. We looked at the prices the competition had for the same service, but also at other companies that have similar services. We also studied the companies that had different services than we did but who aimed at the same thing we did: making their customers have more customers, for example: Yellow Pages, the Commercials, the Add-ons and so forth... And the bottom line was that all of them used to have higher prices than our 3 months subscription, so we took it out.

- *Decision process meant gathering information from competition, clients, prospectors*

What role did other persons have in this decision?

The customers had the most important role, because of their constant feedback... Mostly they had an influence after the decision was made. The same with the prospects. The prospects are potential customers, so people who are familiar with what we do and in course of buying some of our products. So we had prospects and customers who were ok with switching directly to the 6 months subscription. Most of them did, so it was a positive feedback. However we also had prospect who would have wanted to try the 3 months subscription, so a negative feedback for the decision we made.

- *Consequences: negative feedback from some of the clients*

What were the most important problems you've dealt with regarding the decision?

Well, yes... after we made the decision... Considering that the 6 months subscription was more expensive, the customers started to ask us to make the payment in two rounds: one at the beginning, and one in three months. So this was a pretty big problem. So we tried to talk them out of it, to negotiate, to make them pay in advance and possibly to give them a discount for subscriptions for a longer period of time. There were

- *Difficulties: the customers' request to pay in rounds; losing some of the previous customers, thus losing money*

also a few exceptions and we allowed some customers to make the payment in two rounds.

(…)

What were the risks of the decision you've made?

Definitely loosing the clients who previously wanted the 3 months subscription, thus losing money.

What is your opinion regarding the decision? How do you feel about it?

We are satisfied. And this is not just a subjective assessment, but also an objective one.

What are the results, the effects of the decision you've made? So far, of course…

The results? After introducing and marketing the new subscription we got new clients. Around 10 clients who easily accepted to buy the 6 months subscription. It is what I wanted; there is more time for me because I don't have to put that much effort into selling every 3 months.

If you think back at your decision, is it something that you would do differently?

Mmm... maybe I would keep the 3 months subscription but at a higher price, maybe double. Still, we are flexible with this decision we've taken. Even now, if customers ask for the 3 months subscription we are open to negotiate and can decide to sell it to them.

Were there other alternatives to the decision you've taken?

Well, once we thought about taking out the 6 months subscription, but there was too much distance between the 3 months and 12 months subscription and there was no middle way around. It just wasn't logic enough.

Were there other important decisions that you've made in the past 3 years?

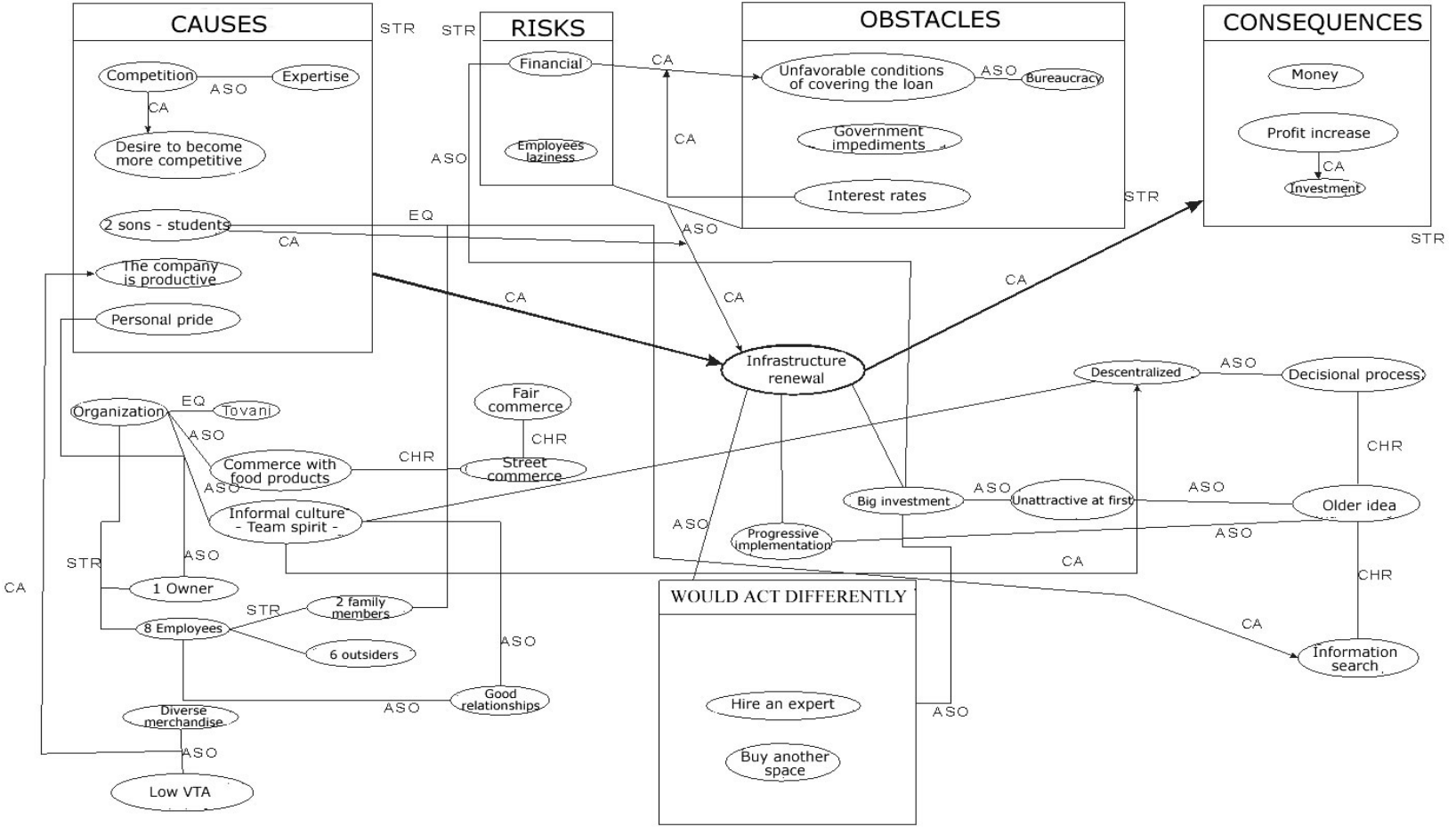
Well, yes... offering new services: market studies and then another important decision was to change the fees. In the beginning we used to charge to much for our services.

- *Decision – flexible, allows negotiations with customers*

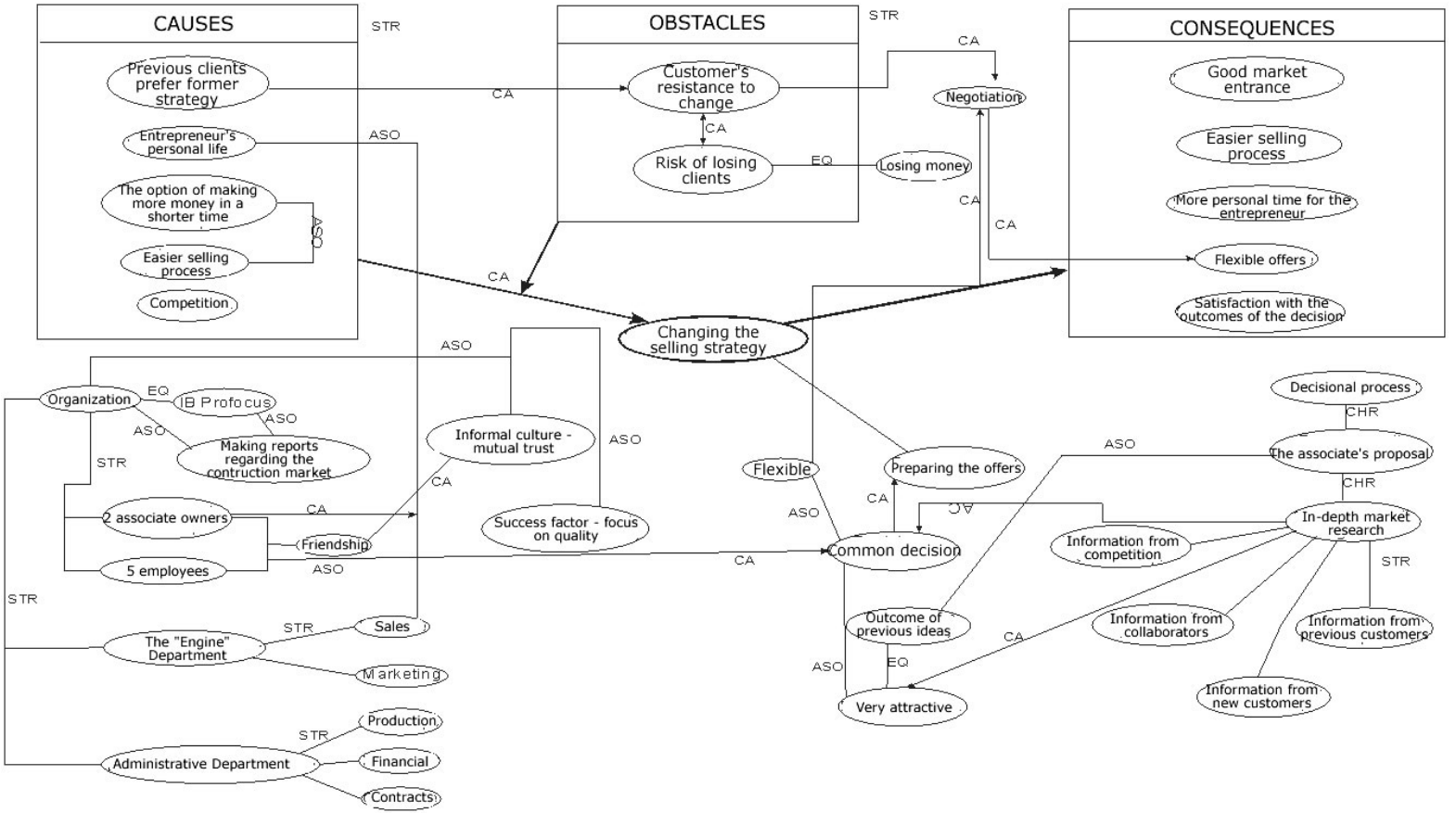
- *Consequences: satisfaction with the decision outputs; an easier selling process; more free time for the associates*

- *Other decisions: introducing a new service on the market*

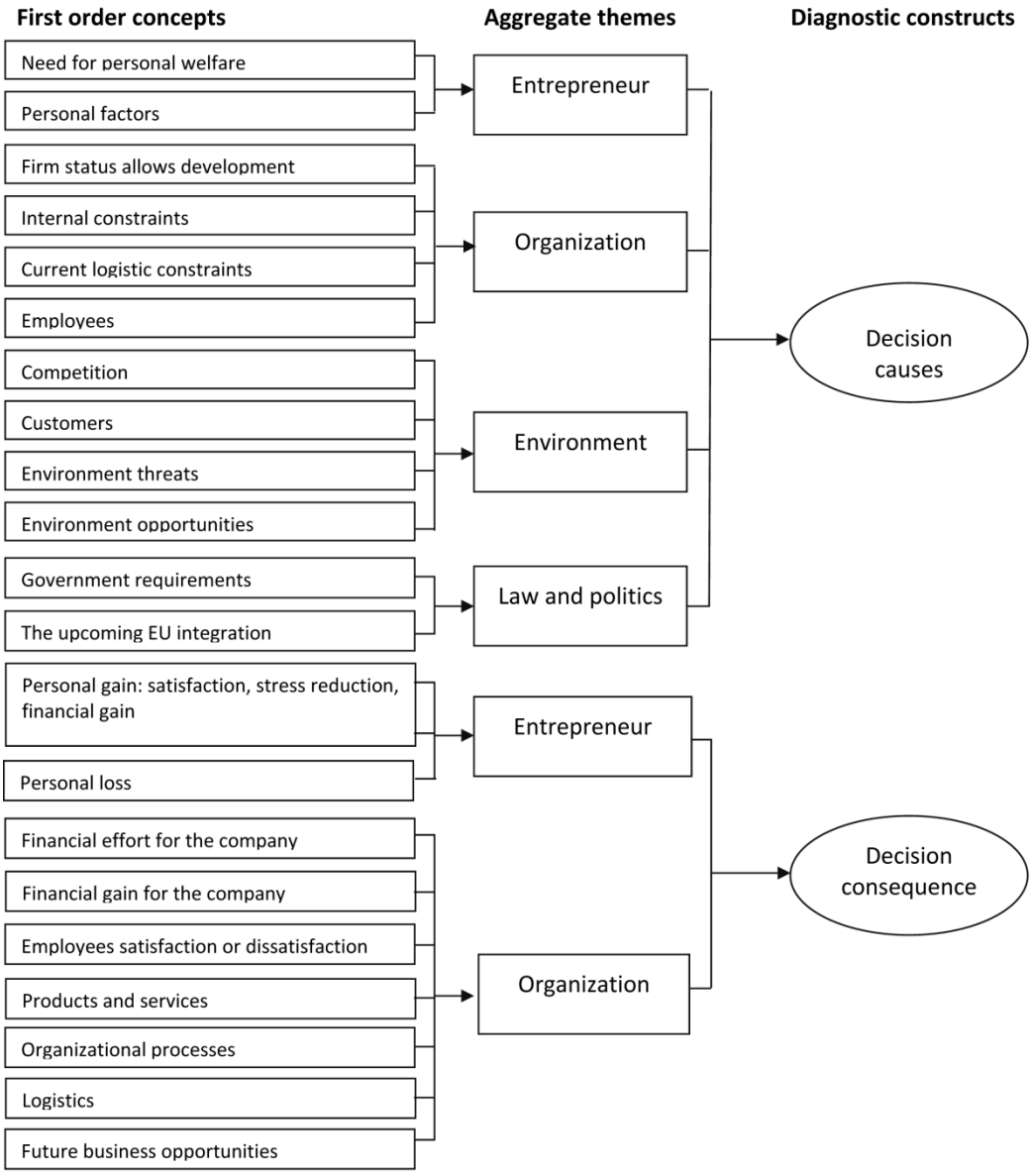
APPENDIX 5 – Cognitive map of an entrepreneur in the commerce business

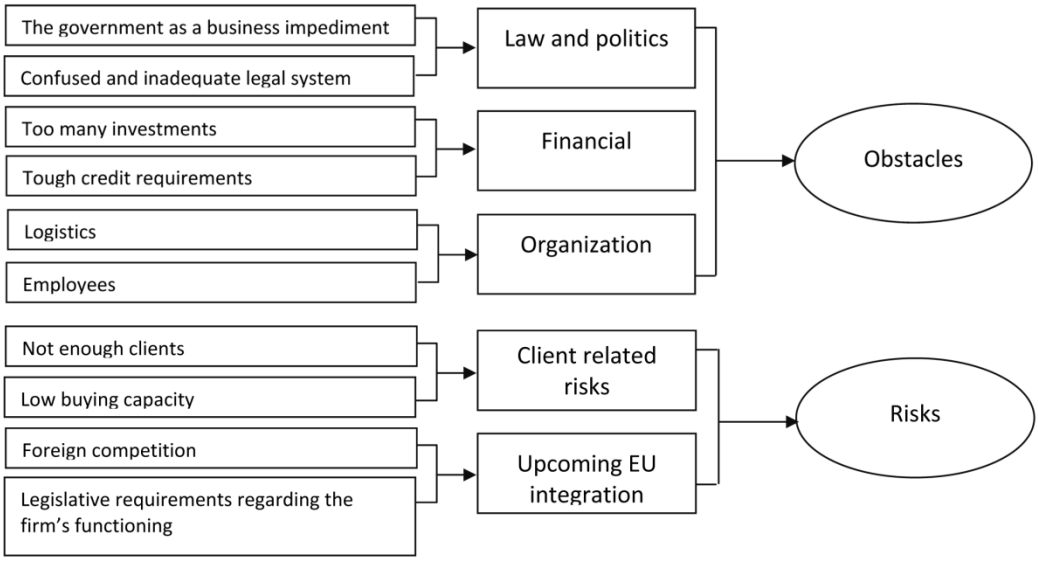


APPENDIX 6 – Cognitive map of an entrepreneur in the consultancy business

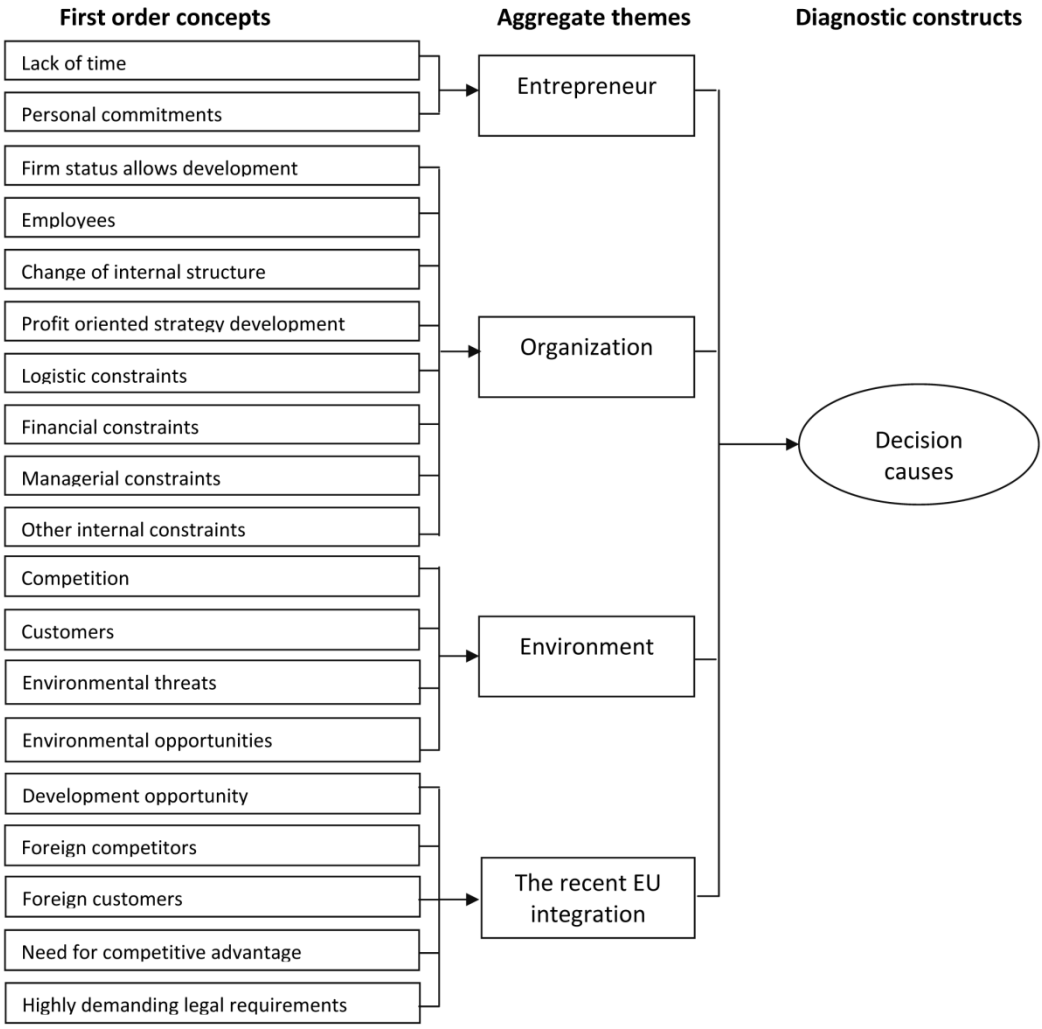


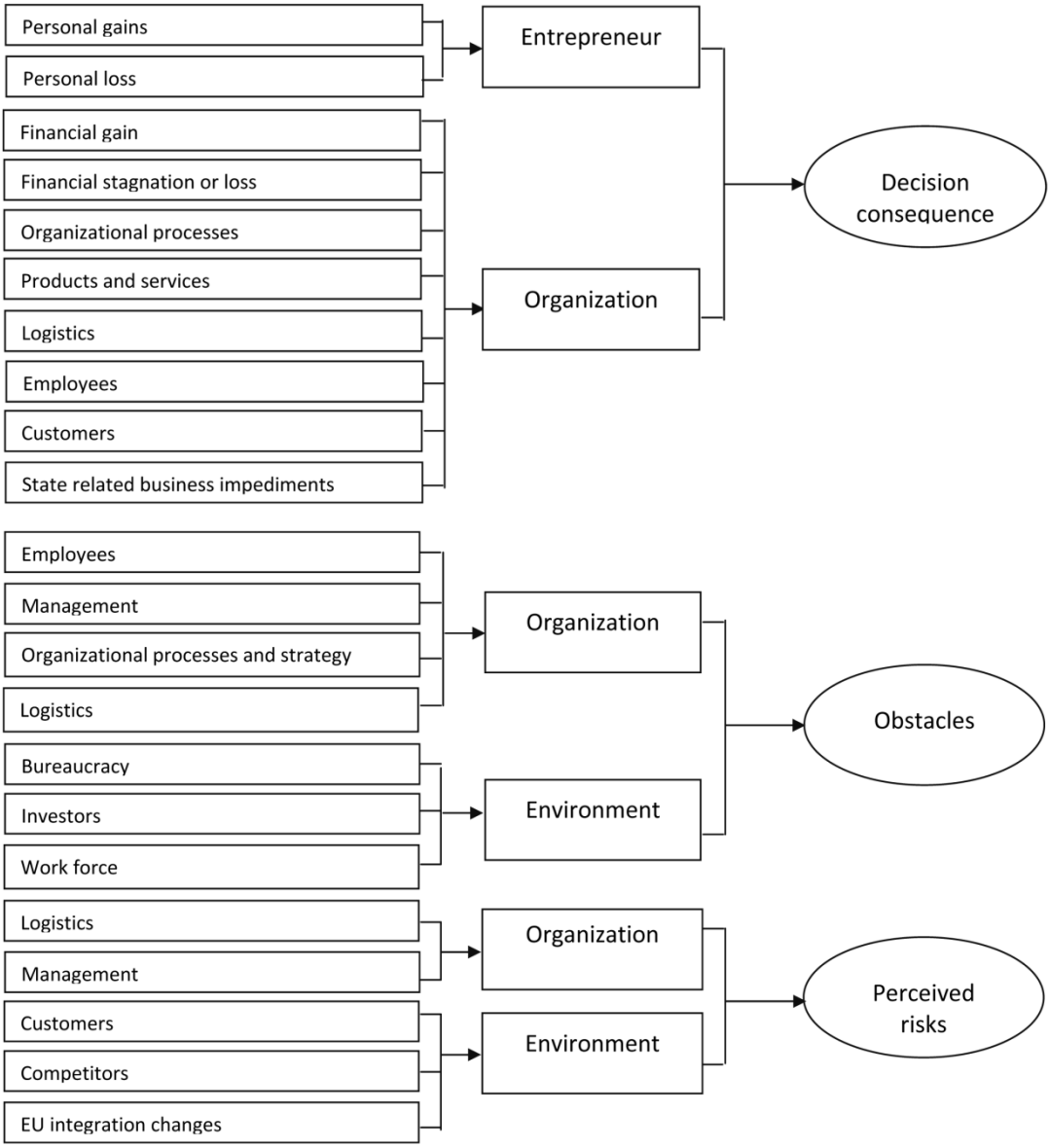
APPENDIX 7 – The output of the interviews' analysis (before IC) performed in order to elaborate the aggregate map before IC included in the study described in Chapter 3




The government as a business impediment
Confused and inadequate legal system
Too many investments
Tough credit requirements
Logistics
Employees
Not enough clients
Low buying capacity
Foreign competition
Legislative requirements regarding the firm's functioning
Law and politics
Financial
Organization
Client related risks
Upcoming EU integration
Obstacles
Risks

APPENDIX 8 – The output of the interviews' analysis (before IC) performed in order to elaborate the aggregate map before IC included in the study described in Chapter 3




Personal gains
Personal loss
Entrepreneur
Financial gain
Financial stagnation or loss
Organizational processes
Products and services
Logistics
Employees
Customers
State related business impediments
Organization
Decision consequence
Employees
Management
Organizational processes and strategy
Logistics
Organization
Bureaucracy
Investors
Work force
Environment
Obstacles
Logistics
Management
Organization
Customers
Competitors
EU integration changes
Environment
Perceived risks

APPENDIX 9 – Quotations/Excerpts from the interviews before IC, illustrative for the construct dimensions identified within the study described in Chapter 3

Table 1 – before IC - Illustrative data for the construct dimension – decisional causes

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Entrepreneur	Personal factors	Personal plans	"Our personal lives also played a role in making the decision... I was in the last year in college and I knew I didn't have too much time to sell our services (...) we had to make a decision that will help me limit my time in selling and acquiring more time for managing" (Services)	Services – 1 Commerce - 2
		Previous experience in the field	"The most important decision we made was when we opened a new store. At first, we just bought a space. (...) Because we focused on selling groceries. This is my field, this is what I'm good at. I've been in this field for 30 years and I really like it. You need to put soul and patience when at work" (Commerce)	HORECA – 1 Textile – 1 Commerce – 1
		Personal wish for service/product improvement and	"New apparatus means better quality, better services for the clients. For me it's the same, I take their money no matter what, bu for them ... (...) I wanted to have more luxury in the	Health – 1 Commerce – 2

		business development	doctor-patient relationship" (Health) "It was compulsory to make this decision, but it was also my dream. My dream was always to get bigger, to develop a stronger business." (Commerce)	
		Positive thinking	"I made this decision because I'm an optimistic" (HORECA)	HORECA – 1
	Need for personal welfare	Sons going to college, therefore need for more money	"Well, we now have to sons going to college, so we need to do this and we are also going to do some more" (Commerce)	Commerce – 1
		Personal discomfort because of the small working space	"Mainly it was my idea, but I was partially compelled to make the decision since there was no room for air in the former place. I needed more air to breath. (...) If you'd stay there for half a day, you would inhale a lot of toner from the machines and kept blowing your nose" (Services)	Services - 1
		Personal wish to make more money	"I wanted to make more money" (Health)	Health – 1 HORECA – 1
Organization	Firm status allows development	Firm is on the right track and has potential	"My firm was going pretty well. I was able to go to any bank and got the credit." (Commerce)	Commerce – 1 Services – 1
		Good financial	"I've noticed that the business was going well. Our sales	Construction – 1

		status	increased day by day. So we said that since it's a positive trend, (...) that sales are increasing, it might be worth investing (in business development) " (Construction)	
	Internal constraints	Turn over	"We had periods when we had a lot of orders, therefore a lot of work and few employees. We were hiring new people and in a month or two they would not have work to do, since the number of lohn orders was decreasing. An we had financial losses. We sure had personnel fluctuation... when the business is not going well, everything is upside down." (Textile)	Textile - 2
		Accountantship error	"My accountant made a big error. We had 30 women in maternity and at that point it was us who paid their salaries and only afterwards we had to compensate with the CAS. At one point I started noticing that there was no money in the firm, quite a big amount, I would say. I was told by my accountant that we should have compensated the salaries of the pregnant employees with the CAS every month. Since we did not do it, we lost all that money. That is the point when I really got upset and decided to shut the plant down " (Textile)	Textile – 1
	Current logistic	Insufficient equipment and	"The employees used to work with their hands. They had no proper machine so it was really physically demanding for	Construction - 1

	constraints	apparatus	them" (Construction)	
		Improper space/location	"The previous location was really improper. It was inhuman for the employees and the merchandise could not be neither stored properly, neither exposed in decent conditions " (Commerce)	Commerce – 3 Tourism – 1 Services - 1
Employees	Difficulties with the employees	Counterproductive behavior: stealing, disloyalty	"When we finally got orders and had to work overtime and work hard, the employees on whom I counted most, who had been with us for a long time, they were the first to turn their backs to us and started to come up with all kind of ideas" (Textile)	Health – 1 Textile – 1
		Maternity leave	"Most of our employees were women. At one point 30 out of 120 employees were on their maternity leave. It wasn't much at first, but it started to count when we had to reduce our activity and fire people. And we could not fire them, yet didn't have to many working hands" (Textile)	Textile – 1
	Facilities generated by employees	Highly skilled employees	"We had another grocery store before (...) Our employees already knew their jobs, they had previous experience in commerce. A sales person must also be a psychologist, when one sees the client one must know how to talk to him " (Commerce)	Commerce - 1

External environment	Competition	New competition , therefore need to be more competitive than competition	"There were 4-5 stores when we got here and all of them were more productive then us. We needed to come up with a different policy: we collaborate with a lot of suppliers and bring in more and very different merchandise. They (customers) need to come in and find products that they cannot reach to in other stores and also at a smaller price " (Commerce)	Commerce – 3 IT – 1 HORECA – 1
		It has more expertise	"A friend of mine came by and one day he just opened a store right besides me. He works in this field longer than me, he knows more about commerce so I said we need to come up with something more, we need to extend our business" (Commerce)	Commerce – 1
		Same practice for the competition	"We agreed upon it because we found out that the competition was also selling subscriptions for the information bulletin for 6 and 12 months (...) so we said we can give up selling the subscription for the 3 months period" (Services)	Services – 1
		More diverse products/services for the competition	"A bigger internet provider was on the point to enter the local market. And apart for the cheaper internet services, they also prepared a more complex package which included telephone and cable at a very reasonable price." (IT)	IT - 1
		Lower prices for competition	"We heard that the competition was coming overhear. And they could offer a really small price to the clients. Their practice	Textile – 1 IT – 1

			also included a free trial period, so we had to withdraw, since we could not do that" (IT)	Commerce – 1
	Customers	Low buying capacity	"The economy is going pretty bad in this town. People are kind of short of money" (Commerce)	Commerce – 3
		Unsatisfied customers	"We had a couple of customers who did not pay us. They did not like the products. They said they had flaws. So we took them back and remade them." (Textile)	Tourism – 1 Services – 1 Textile - 1
		Better quality for the customers	"There was an are that did not have coverage regarding this type of products and services. So we said we should get closer to our customers so they don't have to travel that much" (Automotive)	Automotive – 1 Architecture – 1 Health – 1 IT – 1
			"Our other location resembled more like a basement; it left a bad impression upon the customer. Now it's different, there's more stability and you can welcome the customers properly. They have a positive impression about it." (IT)	Commerce – 2
	Environmental threats	Descending trend in that type of business	"In time, all the other firms in the lohn business started to get on a downward trend. I keep in touch with some of them even now and they are not happy at all with what is going on." (Textile)	Textile – 2 Commerce – 2
			"We went into bankruptcy because that was the trend. We didn't have enough orders, so we didn't have what to work	

			for." (Textile)	
		Big rents	"I started having problems with the owner of the location. He also raised the rent. In other places the rent was even more expensive." (Commerce)	Commerce - 2
	Environmental opportunities	Available infrastructure	"It was a sudden decision. We already had the space and most of the furniture, since a couple of months before we had just closed a grocery store, so we didn't have to invest much." (HORECA)	HORECA – 1 Commerce - 2
		Specific events: conference, exhibition, influential people	"I went to a medical exhibition and I saw a lot of quality equipment. I saw them and I wanted them, just like that" (Health)	Health – 1 HORECA - 1
		Ascending trend of the business field	"I said I should close down the stores and focus on construction since it's a sector in full ascent. It is said that the market of construction materials and services will go through an explosion in the following couple of years and it already started" (Construction)	Construction - 2
Law and politics	Government requirements	Improper implementation of law by local structures	"It was said the Government will pay for maternity leave compensations. It resulted that we had to do it first and only at certain periods we could compensate with the CAS. (...) We could not keep a healthy money balance" (Textile)	Textile – 2 HORECA - 2

			"The Workforce Protection Bureau came in for investigations and abusively stopped the activity. They scared the employees (...)" (Textile)	
		Norms imposed by the Government	"We are compelled to buy all kinds of fiscal document and apparatus, even if small firms like us don't need them." Commerce)	Commerce - 1
	The upcoming EU integration	Entrance on the market of the external competitors with better products	"I travelled a lot outside Romania and realized that if we stick to this level, to the way we are doing the work at this point, we won't be able to resist when they come to Romania. So I thought about improving the business." (Automotive)	Automotive – 1 Construction – 1 Architecture - 1

Table 2 – before IC - Illustrative data for the construct dimension – decisional consequences

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Entrepreneur	Personal gains	Satisfaction	"I'm very happy with the decision I made. I would have lost a lot of money if I hadn't closed the plant when I did."	Services – 1 Commerce – 4 HORECA – 2 Tourism – 1 Health – 1 Textile - 1
		Stress reduction	"It was a good decision; at least I won't have any more head aches because of the SPA Centre. Now I only get my monthly rent and don't make any effort for that" (Health)	Health – 1 Services – 1
		Lifestyle improvement	"I got exactly what I wished for: to live a more decent life. No I can go on a holiday a year, have a party on New Year's Eve (...)" (HORECA)	Health – 1 HORECA – 1 IT - 1
	Personal loss	Money loss	"When I made the decision I thought it was going to be alright. I was wrong. I invested to much, even my personal money, and instead of winning and earning more money, I lost. The investments ate all my personal resources" (Health)	Health – 1 Commerce – 1

		Dissatisfaction	"I think I'll never open another business in this town" (Health)	Health – 2 Textile – 2
Organization	Financial effort for the company	Big financial investments	"We stayed for a long time in a rented space, till we finally decided to buy one. It was a really financial demanding decision. We spent all the company's savings on buying the space. But we were ready to put in stake our own savings too." (IT)	IT – 1 Health – 1 Commerce – 1
		Short term financial losses	"At first we planned to make some more investments in developing the store. I have this thought and sometimes I don't sleep at night because of it. Honestly. But I already invested to much and need some time to recover." (Commerce) "It used to be the activity that brought the largest income intro the firm and when we dropped the internet service, of course, we first registered a regress. We expected to have smaller revenues for the initial period but we were confident that we were able to invest the money wisely." (IT)	Commerce – 2 IT – 1 HORECA - 1
		Long term financial losses	"I'm not very happy with the decision. Fewer and fewer people come around here and our sales keep dropping. I'm thinking to close down the store. I don't know what type of business could work here" (Commerce)	Health – 1 Commerce - 2

	Financial gain for the company	Funds for further development	"We sold our internet services and also 2 more stores that had no profit. And all the money we got, we invested them in developing the business to another field: Aeolian power." (IT)	Health – 1 IT – 1 Automotive - 1
		More profit	"We registered an increase in profit by 30 percent." (Commerce)	IT – 1 Commerce - 3
	Employees satisfaction or dissatisfaction	New job opportunities	"We had young employees and we gave them something to do." (Commerce)	Commerce - 3
		Better working conditions	"We build up a modern, well-equipped locker, with showers and everything... we took care of their (employees') health, because they work in a dusty environment... and we care for them. Mainly, we tried to ensure them with optimal working conditions so they can shower after work and go home clean." (Construction)	Construction – 1 Services – 1 Commerce – 2
		Employee mass resignation/lay-offs	"The employees started to leave. They had credits and bills to pay and they all started to go one by one." (Textile)	Textile -2 Health - 1
	Products and services	Increase in number and diversity of products and services	"The result is progress. We have customers and also more merchandise. We progressed in what the products are concerned; we have a lot of diversity in the merchandise now." (Commerce)	Commerce - 2 Construction – 1 IT - 1

		Increase in quality and flexibility of products and services	"We registered an increase in sales (...), in the business capital and also in the number of services we provide the customer; we now offer free shipping for our products and mechanized download. And all these are on our expense." (Construction)	Services – 1 Commerce – 2 Architecture – 1 Construction – 1
	Organizational processes	Associate changes	"Shortly after opening the new working point I talked to someone about having him as a business associate; we agreed upon him being more than an employee, having more responsibilities, leading the new working point." (Automotive)	HORECA – 1 Automotive – 1 Health – 1
		Improving internal processes	"The customer doesn't win or lose money after the decision. The advantage is that he doesn't have to run and find someone else to deal with pluming or the structure of resistance. It's an easier process for him, he doesn't have to pay over there too and it's easier for us. " (Architecture)	Services – 2 Architecture – 1 Commerce – 1
	Logistics	Logistic difficulties	"In about a year after moving to this new place, the owners saw that it's a good place for business and they started making pressures for getting their space back. And they kept coming one by one, telling me the same thing, even if they knew that we had signed a 5 year rental contract. They backed off for a while but with all these I'm not very keen of	Commerce – 2 HORECA – 1

			further investing in this place either." (Commerce)	
		Investments in developing the logistics	"The outcome is encouraging. Shortly after we relocated, sales increased by 50 percent and in about a month I could reinvest the money and buy some new equipment. It was a real progress."	HORECA – 1 Commerce – 1 Services – 1
	Future business opportunities	Developing the current business	"If the business will keep going on this track, I'm thinking about building one more storage facility, so I can have more merchandise on stock." (Commerce)	Commerce – 2 Textile – 2 Construction - 1
		Opening another type of business	"After selling the internet services we made a couple of investments. We made an advantageous bank deposit, speculated euro-lei ratings and won some more. Afterwards we invested in the real estate field and won some more again and reinvested the money in opening a business with aeolian energy devices." (IT)	IT – 1 Commerce - 2

Table 3 – before IC - Illustrative data for the construct dimension – obstacles in decision implementation

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Law and politics	The Government as a business impediment	Bureaucracy and abuse of power	"I pay all my taxes to the state, this is how we got used to, but the Government is just pulling us back" (Commerce) "The most important obstacles were related to getting approvals and licenses... bureaucracy... approvals from the gas company, from the environment protection and on and on..." (Automotive)	Automotive – 1 Commerce – 5 HORECA - 1
		Inefficient dissemination of relevant information for SMEs	"You don't want to know about the Government's role. The Government doesn't help. There's a lot of nonsense chit-chat at the TV, but when there is something important they are just beyond the situation. Like when I wanted to apply for a financing and I read about it in the newspaper. And I did everything they requested, I searched for the forms and did the documentation, but I was still missing something, till everything got cancelled." (HORECA)	HORECA – 1 Commerce – 2
	Confused and inadequate	Tough fiscal policy for SME	"We need to buy special fiscal documents, although we don't need all of them. And after we bought everything they made us	Textile – 2 Commerce - 1

	legislation		to change them all, to buy new cash registers and new fiscal documents, since they approved the monetary law and introduced the RON. They are nothing but unjustified expenses." (Commerce)	
		Confused legislation	"We opened the new place soon after we rented the location from its owner. And now, it hasn't been a year and the previous owner lost the place in Court. (...) And now there are 3 different owners because of the retrocession law and we don't know who to negotiate with." (HORECA)	Commerce – 2 HORECA – 1
Organization	Logistics	Inadequate location	"The location is not as good as I had expected. I thought it was going to be a better place than the former one... that we are going to have more people coming in and checking the products. But it isn't. I don't know... for the moment we are going to wait and see, I don't know about afterwards..." (Commerce)	Commerce – 1 IT – 1 HORECA - 1
		Long term process of modernization	"There was a problem... it took us 2 or 3 years to get it done and had little room to work in. We couldn't do it from morning till night. We didn't want to shut the activity down while " (Construction)	Construction - 1
	Employees	Few professionals on the market	"I tried to rent the space to people with professionalism... We wanted to have a quality service with quality products. And it	Health – 1 Commerce - 1

			was really tough to find someone fit to do the job" (Health) "It is really tough to find someone you can trust these days, so we gave up to hiring someone at first." (Commerce)	
		Employees counterproductive behavior	"It is really difficult to find someone worth trusting. This was the main obstacle. Because, unfortunately, the people I worked with had a lot of vices and even tried to sell their own products in my bar. Some of them tried to steal merchandise and money, others came to work while being drunk." (HORECA)	HORECA – 1 Commerce - 2
	Financial obstacles	Large investments compared to the firm's revenue	"Apart for modernizing the warehouse I also invested in modern equipment and machines in order to keep up with the future orders (...) I didn't go for any credit or other financing source. I knew we couldn't stop selling, although the sales dropped down during the years of modernization." (Construction)	Commerce – 4 Construction 1 IT – 1 Tourism – 1 Textile – 1 HORECA - 1
		Tough credit requirements	"I wanted to borrow 5000 Euros from a foundation I knew. And they said it's alright, "sure, we'll give it to you". And everything was milk and honey till I went there to pick up the money. And they said they can't give it to me until I deposit a certain amount of money, meaning till I pay the first rate. And this was a problem, because there was no firm activity yet." (Commerce)	Commerce – 3

Table 4 – before IC - Illustrative data for the construct dimension – risks in decision implementation

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Client related risks	Insufficient customers	Risk of not winning the market	"There was a risk of not really entering the market, of not winning it. And, of course, losing company's capital, no profit after all"	Construction – 1 Health – 1
		Risk of losing the previous customers	"We were afraid that we would lose the customers who had previously signed up for the 3 month subscription and therefore their money." (Services)	Services – 1 IT – 1
	Low buying tendency of the customer	Low buying capacity	"Ordinary people have small salaries, the minimum on economy. How much is that? They really earn little money. We wait for nothing for them to come and buy clothes... They should have bigger salaries so they can pay their living expenses first and only then to have a little something to buy clothes. (…) Most of them just come in, take a quick look and leave." (Commerce)	Commerce - 3
		Lack of buying culture	"The client doesn't care much. He doesn't make the difference between quality or not. Even if he has the	Architecture – 1 Health - 1

			money, he would choose a Dacia instead of a Mercedes; this is how it got used to." (Health)	
Upcoming EU integration	Foreign competition	Bigger companies will enter the Romanian market	"I don't know if we have a future once we enter the EU (...). This is the politics. And the big competitors we'll eat us alive, you know the saying. I don't know what will happen to us (...)" (Commerce)	Commerce - 3
		Unfair competition	"A lot of foreign competitors will enter the market. And they have years of experience and a lot more capital then we do." (Commerce)	Commerce - 2
	Legislative requirements regarding firm functioning	Threat for the small firms	"After we enter the EU, I don't think we will resist on the market." (Commerce) "I don't know what will happen. We, the small firms, will probably disappear" (Commerce)	Commerce - 3
		Strict legislative requirements for merchant trade	"We are not aloud to sell fake brands anymore, because they say we make unfair competition to the brands. And you can only sell the brands if you have a license from the mother-company. And that is really expensive." (Commerce) "There are a lot of risks... and now, if we enter the EU they are going to make some more demands, more requirements (...)" (Commerce)	Commerce – 2 Architecture - 1

APPENDIX 10 – Quotations/Excerpts from the interviews after IC, illustrative for the construct dimensions identified within the study described in Chapter 3

Table 1 – after IC – Illustrative data for the construct dimension – decisional causes

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Entrepreneur	Lack of time	Less time dedicated to managing the firm	"My time was split among many activities. I was very busy. I didn't have time to manage my own firm. (...) Sometimes I used to stay 72 hours without a break in the firm, which is not a normal thing to do. But now I also have other businesses to attend to so I cannot do that anymore" (Services)	Services – 2 Commerce - 1
	Personal commitments	Personal desire to improve the business quality	"We wanted to have a more civilized type of commerce, with customers who can walk in, take their time to look at the products and feel comfortable." (Commerce)	Commerce - 2
		Working principles	"One of my principles concerning starting a new business was to work along your employees, to be there, around them. You can tell de difference." (Services)	Services – 2
Organization	Firm status	Financial potential	"In the last couple of years we registered an increase in	Consultancy – 3

	allows development	allows development	profit, it almost doubled." (Consultancy)	Services - 1
		Existence of all the necessary legal documentation and approvals	"Two days before the event, they asked for our help. We had all the approvals they needed: special licenses from the Ministry of Work and Social Protection that allows us to recruit and manage personnel. Since we had all these, we said we are going to do it!" (Consultancy)	Consultancy - 2
		Product and services diversity	"In the past 2 years we registered a boom in sales and customers. We re-branded and diversified our services, so in short time we needed more people in." (Services)	Consultancy 2 Services - 1
		Know-how	"Another reason for making the decision was that we could do it. We had everything what we needed: know-how." (Consultancy)	Consultancy -3
	Employees	Lack of personnel instruction associated with low performance	"Our numbers did not match the ones from outside the country. Most of our employees are farmers and they have no idea about standardization or instruments of measure. They were doing it out of their inspiration... as they thought it was right and it wasn't the right thing to do." (Services)	Services – 2 Automotive – 1 Construction - 2
		Increased motivation	"Our employees are young. Most of them have just graduated the university and feel they have a lot to prove." (Consultancy)	Services – 2 Consultancy - 1

		Lack of trust in the firm associated with turnover	"After not getting their salaries in time, a lot of employees started to doubt the firm, they did not trust that it will get back on the right track anymore and moved to the competition. More than half of my best technical employees had left us and the office personnel had already started to look for another job." (Construction)	Construction - 2
		Insufficient personnel	"We soon got to an under-dimensioned stuff. We had a lot more customers and a lot more services and with the number of employees we had we could not ensure the service level agreement in conformity with our standards." (Services)	Services – 2 Commerce - 1
	Change of internal structure	Gaining decisional autonomy	"Soon after he got promoted as the manager of the Technical Department I talked to him and said that he can have full decisional autonomy; that he can do whatever he thinks is in the best interest of the department." (Services)	Construction – 1 Services - 2
		Implementation of a new working system	"We have recently implemented a matrix working system. The client is in the centre of the business. I am the filter. I decide who gets to work at the project and how he'll get paid." (Consultancy)	Consultancy - 1
	Profit oriented strategy development	Focus towards new markets	"Our new policy is that the customer must find us at a 15 minutes drive tops. So we started to head towards smaller towns, even the rural area, since it is a massive uncovered	Automotive – 2 Consultancy -1

			area." (Automotive)	
		A more aggressive marketing strategy	"The Sales and Marketing Department had the main role. They changed a little the perspective concerning our offers, they ensured a consistency among commercials and more personalized offers towards specific types of customers." (Services)	Consultancy – 2 Services - 2
	Logistic constraints	Difficulties with the space owner	"At one point we started having problems with the owner of the location. He didn't commit to the contract we had signed and he had a lot of claims regarding the opening and closing times of our store. We could not keep to the schedule the customers got used to and we were afraid we would start to look as an unserious business." (Commerce)	HORECA – 1 Commerce – 2
		Improper, old infrastructure and devices	"The restaurant was working in an old-fashioned communist location. The walls, the furniture, the pipes, everything was kind of old compared to the new restaurants in town. Unfortunately we had no money to work on that either." (HORECA)	HORECA – 2 Automotive – 2
	Financial constraints	Lack of money	"We had some financial difficulties, we had a couple of debts and we ran out of cash. We had difficulties with buying equipment and paying our employees. Some of them actually left us at that point." (Automotive)	Automotive – 1 HORECA – 2 Construction – 1

		Financial fraud	"We had discovered the frauds in the past couple of months. The Economic Manager and the Executive Manager had stolen systematically about 750.000 dollars in the past year and we needed to cover it fast." (Commerce)	Construction - 2
	Managerial constraints	Counterproductive behavior	"One of the partners didn't care at all about the business He rarely came and checked the firm and the only thing he was coming in for was to take the money out of the firm." (Construction)	Construction – 2 Automotive - 1
		Lack of Management personnel	"We had functioned without two of our most important management positions for about 4 months. Meanwhile, there were a lot of internal struggle, till we finally got them covered." (Construction)	Construction - 2
	Other internal constraints	Bad product/services quality	"The data we were providing were not consistent with the ones our customers got from our competitors inside and outside the country. They accused us of a lack of quality." (Services)	Services – 1 Construction – 1 Commerce – 1
		Bad image on the market because of the collaborators	"We have a standard of image, services quality and also machines quality. All our collaborators have to meet these standards in order to associate their name with ours. This one hardly met any of these standards even if we assisted him along the process. He had a bad image on the market;	Automotive - 1

			hence we also had a prejudice of image because of him." (Automotive)	
Environment	Competition	Invitation for collaboration	"Two days before the event, they contacted us and explicitly invited us to join them in organizing the event as partners." (Consultancy)	Consultancy – 2
		Pressures from competition	"They couldn't harm us regarding the quality of our projects, but they tried to make us unstable. They started to make pressure on our technical staff; they offered them more money and a lot of them left us for them." (Construction)	Construction – 1 Commerce – 1 Consultancy – 1
	Customers	More customers	"In the past 5 years we tripled our number of customers and they start coming from more diverse types of businesses." (Consultancy)	Consultancy – 2 Services - 1
		Less customers	"Most of the people have a low buying capacity. They can't afford much. Not too many can afford and eat in a restaurant. And when they do, they rather eat in a new opened one." (HORECA)	HORECA - 2
		Unsatisfied customers	"Some of the clients were unhappy with the data we provided them. They also had Research Departments and the figures we provided them didn't match theirs." (Services)	Services - 1
	Environmental threats	Lack of qualified work force	"There are few qualified construction workers on the market. Most of them get qualified inhere and then start to leave for	Construction – 1 HORECA – 1

			Spain or Italy where they are better paid." (Construction)	Commerce - 1
		Romanians would rather buy products than services	"Romanians don't know much about services in general, not only about consultancy. People hardly buy services and when they do, they feel they pay too much. Even if the quality of the services starts to be similar to the ones outside the country, they'd rather pay exorbitant money upon products, rather than services." (Consultancy)	Consultancy - 2
	Environmental opportunities	Interest on the market for that type of product/service	"I got the idea from the market. We used to visit clients and they kept complaining and asking us if we also provide post-selling service. So I knew there was an unsatisfied need on the market that we could cover." (Services)	Consultancy – 2 Services - 1
Recent EU integration	Development opportunities	Access to foreign success models	"We tried to restructure our business according to the international consultancy models after we found out about Roland Berger and other international players. When we made the decision we took a look both at our internal competitors as well as the foreign, giant competitors. We didn't want to copy them mo-a-mot, though." (Consultancy)	Consultancy - 3
		Development opportunity	"The EU integration was like a catalyst for our business. Entering the EU meant that we had one year to develop a strong brand and take a deep breath of reality and build some kind of advantage. We also want to enter the European	Consultancy - 2

			market and this will happen in about 2-3 years if everything goes as planned." (Consultancy)	
	Foreign competitors	Penetration of foreign competitors on the market	"In the field we are working in there are about 5 big competitors. 3 of them are multinationals and came recently on the market." (Consultancy)	Consultancy – 2 Automotive – 1 Services - 1
		External competitors have bigger financial power	"Our multinational competitors provide more or less the same services we provide: personnel leasing, HR consultancy… And they are multinationals; obviously they have bigger financial power. When Romania entered the EU, a lot of opportunities arose, especially for those with big financial possibilities. In other words, it brought competition." (Consultancy)	Consultancy – 2 Services – 1
	Foreign customers	Bring in new mentality	"Once we started the contact with the EU, a lot of firms started to get interested in our services. We started to have foreign, multinational customers for our HR services. Also, when they came, they also switched a little the local mentality, more local firms started to be interested in developing their personnel." (Consultancy)	Consultancy - 2
		Require clear quality standards	"Our multinational customers asked for certain quality standards. They asked for ISO or other licenses that would certify us as a trustable HR services provider." (Consultancy)	Consultancy – 1 Construction – 1

	Need for competitive advantage	Competitive advantage granted by knowing the local market	"When we heard we were granted the EU membership we foresaw that our competition might increase, since the consultancy market is still largely uncovered in Romania. So we thought we would need to build in and strengthen some kind of competitive advantage. Knowing the local market is one of them." (Consultancy)	Consultancy – 1 Construction – 1 Automotive – 1 Services - 1
	Highly demanding legal requirements	Strict legal requirements regarding commerce, working conditions etc	"There are very strict norms we must respect now. For example, we must provide the employees with certain facilities, with a special locker-room and so on." (HORECA)	Commerce – 1 HORECA – 1
		Increased penalties for breaking the legal requirements	"If we do not follow the rules, we pay. And we pay a lot! The fines are bigger now, you cannot afford to break the law." (HORECA)	HORECA – 1 Construction – 2 Automotive – 1
		Higher taxes	"They increased the taxes, gas cost, food costs, everything because they said they must align our prices to the ones in the EU" (Commerce)	HORECA – 1 Commerce - 1

Table 2 – after IC – Illustrative data for the construct dimension – decisional consequences

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Entrepreneur	Personal gains	Satisfaction	"I'm very happy about my decision. I won my bet with the other partner. For me it was really important that I managed to fulfil my goals and I managed to bring more money in than the Commercial Department." (Services)	HORECA – 1 Services – 1 Consultancy - 3
		Stress reduction	"The results are that I'm not stressed anymore about the firm. When I need money I just give a call and say how much I need and I get them. And I don't have to deal with the service people anymore and they were driving me crazy. They thought they could fool me since I was a woman..." (Services)	Services - 1
		Ensures satisfactory life style for family	"It's just enough to live from. I have to kids in college and I'm happy I can afford to pay their tuition and have a decent life from the rest." (HORECA)	HORECA - 2
	Personal loss	Money loss	"We invested a lot of our money and for the time being they are not paying back." (Commerce)	Commerce – 2 HORECA - 1
		Dissatisfaction	"I couldn't get along with my partners and I quit soon after. Their policy about fooling customers around kept going on and I did not like it. So I quit." (Services)	Services - 1

Organization	Financial gain	Increase in firms revenue	"For the firm it was a huge profit. We brought more money in than the Commercial Department." (Services)	Services – 1 Consultancy – 3 Automotive – 1 HORECA - 1
		Covering the financial deficit	"We managed to solve all our financial issues. We finally had the money. We talked to our suppliers and paid them too. Everything got settled in the end." ()	Construction - 2
	Financial loss or stagnation	Not enough money to keep up with promotion rates	"We had some financial challenges afterwards. We couldn't afford to increase their salaries (the employees') for quite a while and they were not happy about it. Some of the experts left us soon after." (Services)	Services - 1
		No financial impact	"I can't say it was a financially winning or losing solution. I didn't notice such an impact." (Services)	Services - 2
	Organizational processes	Clear cut responsibilities	"It was really clear what need to get done and who has to do it. There were no more "I didn't know" situations, especially among departments." (Consultancy)	Consultancy – 2 Services - 1
		Increased quality of processes – obtaining a certification	"The consequences were exactly what we had expected. The waiting time was almost reduced to 0 for the customers. The operators worked faster because there were plenty of them. They even started to have some free time among phone calls." (Services)	Services – 3 Consultancy - 1

			"We are in the process of obtaining our ISO certification. We are pressed by the European standards. Let's say it's going to be something mode to add ad the company's CV." (Services)	
	Products and services	Increased quality of products	"The consequences were obvious. The sampling scheme reduces time and increases the data quality. It is a very efficient, functional process." (Services)	Services – 1 Consultancy - 2
		Successfully completing the commitments	"I stayed for two more months and we successfully completed the final construction projects too." (Construction)	Consultancy – 1 Construction - 2
	Employees	Regaining trust	"He stabilized the firm: all the employees kept their jobs and regained trust in the firm and a feeling of safety. It was a normal thing to do; we had money once again and it meant a lot for its stability. We had no more problems with the workers either." (Construction)	Construction - 1
		Bigger team	"The consequences? We had 12 new people in the team and shortly after another 12. Basically every team leader started to have more people in the team. The number of team leaders also increased." (Services)	Services – 1 Commerce – 1 Construction - 2
		Optimal number of responsibilities	"We avoided the elimination of a project manager's extra tasks, especially in the final phases of the procedure. We also reduced the costs with paying extra personnel." (Services)	Services – 3

	Logistics	Better location	"We got exactly what we needed. It's not bigger than the other place but at least we can decorate and personalize it as we want." (Commerce)	Commerce – 2 HORECA – 1
		Investments in devices and utilities	"We made European – standard investments in modern equipment and devices." (Automotive)	Services – 2 Automotive - 1
	Customers	More customers	"We managed to bring on our side the customers who had asked for quality certification and all sort of licenses from the Work Ministry. Some of them needed it for PHARE or all sorts of funds so I understood them." (Consultancy)	Consultancy – 1 Commerce - 2
		Increased customer satisfaction	"Basically, the client is attended faster than before. Of course he's very happy about it. It's a busy world outside." (Services)	Consultancy – 1 Commerce – 2 Services - 1
	State related business impediments	Excessive check-ups associated with image prejudice	"The Government? Yes it played a major role. They didn't let our partners to go ahead with the event and after we came in the game they also started to grant us special attention and treatment. We started to be sabotaged. They made more frequent check-ups, more goal-directed check-ups if I can put it this way. In less than 10 minutes after opening the event they were present at our door to check for the approvals." (Consultancy)	Consultancy – 1 HORECA – 1 Commerce – 1

Table 3 – after IC – Illustrative data for the construct dimension – obstacles in decision implementation

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Organization	Employees	Counterproductive behavior	"When the employees from the Service Department realized they could make more money, they started to have, not really an aggressive policy, but they were trying to convince the customers they had fake service problems. They tried to mislead them and it wasn't difficult, if you know what I mean." (Services)	Services – 3
		Confusion about authority	"The employees were a little bit confused at first. They didn't recognize him as a boss at first." (Services)	Services – 2 Construction – 1
	Management	Partner difficulties	"My partner was against my decision. He had some personal affairs with the girls in the Commercial Department and kept their side. They were afraid we would reach our target for the Service Department." (Services)	Consultancy – 2 Services - 1
	Organizational processes and strategy	Unsatisfactory intra-organizational collaboration	"When the Commercial Department noticed that we start to bring more money in, we became a menace. They started to sabotage us. They didn't want to bring us in the machines and utilities we needed. They started to forget our devices at the customs." (Services)	Services – 2 Consultancy – 1

		Strategy difficulties	"I think we chose a really bad time for recruiting. It was during the winter exams and probably the students were not that eager to find a job at that point." (Services)	Services – 3 Consultancy - 1
Environment	Bureaucracy	Too much paperwork	"There's a lot of trouble and head ache with closing a firm and opening another one. I would have never imagined." (Commerce)	HORECA – 2 Commerce - 1
	Investors	Investors difficulties	"It was difficult to find an investment partner that would comply with our terms, meet the standards we have and also embrace our development policy." (Automotive)	HORECA – 1 Automotive – 1 Construction - 1
	Work force	Lack of desire to build a career	"We had few applicants, fewer than I expected and even fewer of those who corresponded to our standards. I think they are closed minded and do not seize such a big opportunity to build a corporate career." (Services)	Services – 2 Commerce - 1

Table 4 – after IC – Illustrative data for the construct dimension – perceived risks in decision implementation

Aggregate themes	First order concepts	Quotation summary	Representative Quotations	Types/number of organizations
Organization	Logistics	Owner related risks	"We were afraid of not having the same problems with this owner too: that he would like to sell the space soon after we rented it." (Commerce)	HORECA – 1 Commerce - 2
	Management	Insufficient instruction	"At one point I started to think that he was not the right person for the job. He barely completed high school and it is not a habit nowadays to appoint someone manager without studies and previous leadership experience." (Services)	Services – 2 Consultancy - 1
Environment	Customers	Losing customers	"We risked losing the customers that we used to have because of the location change." (Commerce)	Automotive – 1 Commerce – 1 Consultancy - 1
		Risk of not winning the market	"We might lose potential clients because of the bad timing. It's really important for the customer to have the services he wants really close to his home. And at this point we left too much open space for the competitor." (Automotive)	Consultancy – 2 Automotive – 1
	Competitors	Similar products	"The estimated risk was for the competitors to enter the	Consultancy – 2

		or services	market with a similar type of service." (Consultancy)	Commerce – 1
	EU integration changes	Legal changes	"Once we entered the EU, we do not have to pay customs taxes for imported cars, second hand cars. We only pay a tax for the first-time registration or something. The point is that we are going to have an invasion of imported cars." (Automotive)	Automotive – 1 Commerce - 2